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ORIGINAL ARTICLES.

ENDOMETRITIS: ITS PATHOLOGY, SYMPTOMATOLOGY AND TREATMENT.*

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In beginning the discussion of this subject, I do so feeling that upon these lines of reasoning hang the only true conception of endometritis and its treatment; these conclusions are drawn from a large clinical experience and a close study of its pathological conditions. I will classify the conditions as simply as possible, take up its etiology and pathology and discuss its treatment from the standpoint of its pathology.

We have simple, septic and gonorrhœal. Under the head of simple are gathered all those conditions inflammatory in character, invading the endometrium produced by the following causes:

Displacements causing chronic congestion and hypertrophy.

Imprudent exposure during menstruation.

Retention of menstrual flow or mucus by cervical obstruction.

Sexual abuse, either in intercourse or masturbation.

Fevers, eruptive and protracted simple.

Frequent miscarriages.

Traumatism by intra-uterine instrumentation or pessaries.

Under the head of septic are gathered all those causes by which septic material or germs are implanted upon or within the mucosa, as by dirty instruments or hand.

Decomposing menstrual blood or lochia infected by lack of cleanliness at menstruation or abortion. (Those forms arising at confinement come rather under the head of puerperal fever).

Torn perineum, which makes of a normally closed vagina a cavity frequently filled with air, thus opening broad avenues for infection.

Gonorrhœal alone caused by introduction of the gonococci.

We may find the pathology of simple metritis one of two forms:

Primarily, and by far the most common, is a hypertrophied condition of the mucous membrane follicles, tortuous but retaining in its integrity its epithelial covering which presents a swollen appearance; muscular walls thickened, often causing decided enlargement of uterine body; blood vessels engorged and turgid, aiding in the local œdema; small capillaries multiplied in number and distended with blood, bleeding freely on slight traumatism or over-exertion; crypts between follicles filled with glairy mucus and lymphoid cells which are constantly discharged as a leucorrhœal discharge.

From the super-nutrition produced by the over-supply of blood, there often springs into existence fungosities, which are truly hyperplastic cells; or following a confinement or abortion, small particles of decidua or placenta may remain, which take on new life and growth forming fungoid masses. In either condition, there is constantly thrown off a mucoid discharge, varying in color by the number of lymphoid and desquamated epithelial cells which it contains. Either of these growths at the menstrual period may produce metrorrhagia and often alarming hemorrhage.

Secondly: The atrophic form in which the uterine walls are hardened by sclerosis,

*Read before the Georgia State Medical Association, April, 1894.

the mucous membrane almost devoid of epithelium and closely adherent to submucosa, crypts few in number. This condition is always a secondary one, and is invariably associated with amenorrhœa and dysmenorrhœa of a distressing and intractable form.

The symptoms and many complications arising from endometritis are of much interest, illustrating more perfectly the effect of the sympathetic nervous system on the different organs of the body and the general health than any other disease. The leading symptoms of endometritis are headache, occipital and parietal in location; flatulence; indigestion, fermentative in character, produced by dilation of the stomach, which is almost constantly associated with endometritis of long standing; pain in either breast, usually the left; great fatigue from exercise; leucorrhœa distressing in character, in the acute forms quite profuse and sometimes of very bad odor. In the atrophic form the leucorrhœa is absent or very slight, but all other symptoms are usually present in aggravated form. In both forms, the nervous system is thoroughly shattered, often producing hysterical phenomena whose form is legion. Sufferers from this trouble quickly develop a decided cachexia, often suggestive of malignant trouble, though none exists.

The treatment of the simple acute endometritis is almost sure to yield prompt and good results when the condition does not exist in an aggravated form, and can be taken early. The greatest benefit and flattering results can be obtained by change of air, well-regulated hygiene, exercise and nutritious diet, combined with a judicious administration of chalybeates and arsenic. At the menstrual period, rest in bed throughout its course, to be continued for at least four successive months. Metrorrhagia and dysmenorrhœa, if they exist, are well controlled by the judicious use of fluid extract of viburnum prunifolium, hydrastis and cannabis indica.

It is, however, the misfortune of both physician and patient, that when the metritis first makes its appearance, it is looked upon as a matter of small moment, the result only of a bad cold or over-exertion; or if the family physician is called, he is too prone to pass it by unheeded, with the remark: "If it trouble you, let me know." By slow degrees, the once simple condition passes into one which demands attention. And let me urge that that attention be prompt and decisive; for only by such measures will perfect results accrue. There are three lines of treatment to be selected from under these conditions, depending upon the variety and extent to which the process has advanced. In the simple acute, just passing into the more aggravated forms, and in the atrophic variety, simple gauze packing will in many instances prove all that is required.

To insure good results in performing this operation and to steer clear of the rock of sepsis, upon which so many surgical crafts are wrecked, it must be borne in mind that the vagina contains at all times thousands of pyogenic cocci, and it would be easy through this medium to infect a previously uninfected endometrium, thereby exchanging the simple for the septic form with its legion of complications.

To avoid such dire results, the strictest laws of antisepsis should be observed. A vaginal douche of one of two thousand sublimate solution should be given; then the external genitals should be thoroughly scrubbed with tincture of green soap and warm water, a perfectly clean speculum then introduced and vagina and cervix well wiped off with pledgets of absorbent cotton, dipped in a sublimate solution of one to two thousand; cervix should then be caught with a tenaculum and drawn forward, thereby straightening cervical canal; cervical canal should then be wiped out with absorbent cotton on an applicator having previously been immersed in same solution. If necessary, cervical canal should then be slightly dilated, cervix being steadied by tenaculum, a long strip of iodoform gauze three-quarters to one inch in width and fifteen to twenty per cent. in strength is looped over the end of a smooth uterine sound, and gently introduced to fundus; the sound is then withdrawn and point again entangled in gauze at the mouth of cervical canal, and gently introduced, thus loosely packing the uterine cavity with gauze. It is then clipped off about one inch from cervix, and a wider strip is introduced in the vagina over and around cervix. Covering this with a pledget of sterilized or borated cotton and operation is then complete.

This dressing is allowed to remain unmolested four or five days, patient prefer-

ably remaining in bed. This, however, is not absolutely essential to a successful result, as she may be permitted to remain upon a sofa or recline in an easy chair.

On the fourth or fifth day this dressing is removed, with the same precaution, and again packed. This procedure is repeated, if necessary, four or five times. If menstrual flow should appear, remove dressing and repack fourth day after its disappearance.

This treatment insures drainage and an aseptic healing dressing to an inflamed and œdematous mucous membrane in the more acute forms, and to a mucous membrane below the normal in its nutrition in the atrophic. In both instances, a perfectly scientific procedure which recommends itself from every standpoint of common sense and good surgery.

In the acute forms, this treatment by drainage and antiseptic dressing, quickly brings about resolution and restores the engorged uterus to its normal condition. In the atrophic it stimulates and insures better nourishment to an impaired and partially destroyed mucous membrane, and thereby often, to some extent, removing the troublesome dysmenorrhœa and amenorrhœa.

In the severe forms of the septic which have become chronic in character, with troublesome symptoms, curettage should precede the gauze packing, as already described.

The septic form in its acute invasion, presents a picture once seen, never to be forgotten, and as differentiation between gonorrhœal and septic can only be made by the microscope, this clinical picture will represent both.

A patient after miscarriage, abortion, dirty instrumentation, the wearing of a stem pessary or the introduction of the gonococci, is first taken with headache and languor, followed by chills and fever, usually high, micturition is usually frequent, urine small in quantity, bowels constipated, tympanites more or less constant, depending upon extent of invasion of pelvic peritoneum, pelvic region tender on pressure, and colicky uterine pains gradually becoming a dead ache. Examination reveals vagina hot and bathed in muco-pus, more or less hemorrhagic, uterus engorged and exquisitely tender to touch, exudative masses may be found surrounding uterus if adnexa be involved.

By speculum examination a large, turgid, often bluish cervix is exposed, from which there is constantly discharged a ropy muco-pus; cervix may be eroded, and in cases of late abortion and post-partum origin, patches of diphtheritic membrane may be found upon cervix and vaginal walls, due to the presence of the streptococci.

Endometritis, when produced by the gonococcus, is usually less rapid, and rarely causes death; whereas, in the septic form, death not infrequently draws a veil around the victim.

Whenever these conditions present themselves, never hesitate; act with prompt, thorough, clean and determined intent; with such, good results will surely come, and many lives of suffering and invalidism caused by diseased adnexa will be saved. Treat the disease as common-sense and good surgical rules surely dictate.

What surgeon is there to-day, who, having such a condition in any other portion of the body, would not make it his first step, his foundation for further treatment, to thoroughly cleanse the septic cavity, following it by good drainage?

Strike off the shackles of ignorant timidity which hold to vaginal douches, hot poultices, and lead to high mortality.

To thoroughly cleanse this cavity by referring to its pathology, it is found that staphylococci and streptococci are almost entirely found in the mucosa, rarely penetrating to the muscular wall; mucous membrane is bathed with pus, and in aggravated forms, the mucosa at times necrotic.

In the gonorrhœal the gonococci rarely pass deeper than the lymph spaces beneath the epithelial lining.

This being clear, the first step suggested is to remove the infected tissue which should be done thoroughly; a half procedure is worse than none. This should be procured by curettage, a description of the method of which is given later..

The presence of pelvic exudate is no contra-indication, but rather an indication for curettage.

Curettage, under all circumstances, should be performed with the greatest care. Bowels should be thoroughly evacuated the night prior to operation, with free doses of salts; one hour prior to administration of anæsthetic an enema of warm water should be given; vaginal douche of one to two thousand sublimate solution should then be given, and external genitals should be well scrubbed with hot water and tincture of green soap, after

which the vulva should be covered with a pad of sublimate gauze held in position by napkin.

After anæsthesia is complete, instruments being sterilized, a speculum should be introduced, and any mucus that may have collected in vagina washed out with stream of sublimate solution one to three thousand; vaginal walls and cervix should then be washed with pledgets of absorbent cotton soaked in same solution, and cervical canal cleansed with cotton wrapped upon an applicator, immersed in either carbolic acid pure, or sublimate solution; cervix should then be caught by tenaculum, drawn down and steadied, dilator introduced and cervical canal well dilated; intrauterine washer should then be introduced, and uterine cavity washed with sublimate solution one to six thousand, after which dull curette is introduced to locate any decidual tufts, polypi or granulating masses; sharp curette should then be used with slow, regular strokes from fundus to external os, mucous membrane should be stripped off thoroughly, when sides have been completed, fundus should be treated in same manner, and successively curette should be rotated in each cornua, curette should continue till the sensation peculiar to the contact of the curette to muscular tissue is detected, and in all cases where uterus is not intensely softened, as in the puerperal state, there is a sound produced, harsh and grating in character, when the muscular wall is encroached upon by the curette; if as in the puerperal uterus, the muscular wall is very soft and danger of perforation is great, a rather flat, broad and moderately sharp curette should be used, and great care should be exerted to detect immediately the sensation produced by the muscular coat upon the curette.

Though the danger of perforation by sharp curette is so loudly sung, in careful hands, skilled in such work, such an accident should never occur. After curettage, uterus should again be washed out with sublimate solution, one to six thousand, till water returns clear; vagina should then be thoroughly cleansed, and uterus well packed, as already described. Vagina should be loosely filled with strips of gauze, and vulva pad of sublimate gauze applied, to be changed every six hours; water should be drawn at each dressing, and dressings allowed to remain unmolested as long as temperature remains down, till four days shall have elapsed, when it should be removed, as before. If temperature remain up, which is unlikely, dressings should be removed after twelve or twenty-four hours, as indicated by temperature, and uterine cavity again douched with sublimate solution one to six thousand, and uterus repacked as before. If temperature remain down, dressings can be left from five to six days, when they should be removed with antiseptic precaution, this treatment being continued till recovery is complete; the gauze insures perfect drainage, and with this plan of treatment laid down, temperature quickly falls, and pelvic exudations soon disappear.

In the septic and gonorrhœal forms, peritonitis may exist, and if so, bowels should be flushed daily by salts; should nausea exist, precluding the use of salts, enemata of

℞ Glycerine..... oz. 6
Oxgall (fresh)..... oz. 1
Rochelle Salts..... oz. 6
Aquæ q. s..... qts. 1
M. Use as one enema.

This should be given thirty inches up the bowels by high enema tube, and repeated as required.

By this treatment, rest and comfort, far greater than by morphine, will be produced, and "Nature's peritoneal drainage tube," as Lawson Tait has termed the intestinal canal, is constantly relieving the peritoneal cavity and general system of noxious material.

Beware of the delusion, often by temerity becoming a snare, of making applications of caustic agents to cervical canal as there exist authority for by many writers.

The best result that can be hoped for by such treatment is temporary amelioration of the condition. If the simpler forms are not made septic by the absorption of necrotic tissue produced by these agents, it goes on from a simple congestion thoroughly curable, to the atrophic form virtually incurable.

Caustics destroy the mucosa, and in its place scar tissue is substituted, through which the patient is compelled to menstruate. The sufferings of such an one may well be imagined.

In the cervical canal the severe caustics lead to cystic degeneration of cervix, produced by cicatricial contraction closing the ducts of the cervical glands.

On the other hand, after curettage and gauze packing, the mucosa is regenerated, fresh and healthy.

HYDROPHOBIA.

HIRAM CORSON, M. D., PLYMOUTH MEETING, PA.

[CONTINUED FROM PAGE 631.]

CASES.

As I have already stated, the committee appointed to report on this disease by the American Medical Association presented 106 cases which I have carefully read. In nearly all of them the predominance of the excited nervous system masked all other functional derangements and caused the seeming suffering. There was scarcely a single case that differed from those which we know were spurious, false ones as proved by their being utterly cured by means acting on the nervous system. When I spoke to you on this subject some months ago, and doubted whether there had been a single well authenticated case in our county, or even in the State, during the last half century, I was told of two undoubted ones here: one in Norristown and the other only a few miles away. I have since investigated them.

The first case was that of JOHN EARNEST. At the time he was bitten his hired-man, Miles Burns, was also bitten by the same dog. The following is the latter's account of it:

Mr. Sullivan, the hatter, had a beautiful, favorite hound which had been kindly treated; a pet too, in his family, being much in the house. One day the dog was absent, the next day he walked into Mr. Earnest's office, a mile below Norristown, and quietly laid himself down under the desk. He was such a kind, gentle animal, apparently without an owner, that Mr. Earnest concluded to take him along home—a mile away. So he coaxed him from under the desk and taking a rope in his hand attempted to put it around his neck. The dog was not used to being tied and when the stranger took hold of him, bit him on one of his fingers. Mr. Earnest then called on Burns and they succeeded in putting a rope around the neck of the frightened animal, but while doing it, Burns was also bitten. They then brought up the light wagon to take him away. As soon as he saw the wagon he sprang into it and lay down under the seat. He had been accustomed to be carried in that way by his master. Earnest took him home, but in pulling him into the barn to tie him there, the dog again bit him pretty badly on the wrist. When next day Earnest came to oversee his "works," Burns saw that he had his arm bandaged, and as he had only been bitten on the fingers when at the office, Burns inquired why his arm was bandaged, and was told of the second bite on the wrist. The first night after the dog had been tied, he jumped out of a high window and as the rope was too short to allow his feet to touch the ground he was choked to death. On the second day after he was bitten, Earnest did not come to the works, as was his daily habit, and Burns heard no more of him for two or three days, when he heard he was dead. It was of course reported as a case of hydrophobia. How can we account for this rapid development of the disease and the premature death? The period of incubation, as already stated, is weeks, not a few days, and the most rapidly fatal cases never, or rarely, die in less than four to six days. Mr. Burns stated to me that Mr. Earnest, from the moment he was bitten, became very uneasy, fearing the dog was a mad one, and worried about it all the time. He did not know that he went to any "mad-dog" doctor, but Dr. Duncan, who attended him, doubted its being a true case. It was evidently a death from fear. Mr. Burns' family, after the death of Earnest, insisted on his going to Mr. Emery, of Phœnixville, of whom I have already spoken. He never felt afraid of being infected and nothing came of it.

CASE II.—Mr. Burgess, machinist in Norristown, said: "His own dog seemed well and was about the shop, when, suddenly, he jumped up and ran into the street where he behaved in a most unusual way for awhile, after which he darted back into the shop, and through it into the yard where he dashed around wildly and finally jumped down into a cellar window. A fellow workman stooped down,

caught him by the back of the neck and jerked him out, and while tieing him was bitten. The wound bled freely. Mr. Burgess said to him, "This may be death to you, perhaps." He replied, "That is my business." Mr. B. of course thought the dog was rabid. As he had heard that dogs would eat castor oil, and thinking possibly that it might be pain which caused him to act so strangely, he put some oil in a saucer, and securing it to a handle about two feet long, held it to him. He at once dashed at it and lapped it up. In a few hours he was well purged and soon quite well and continued so. The bitten finger healed naturally, even without antiseptic dressings, and the bitten man suffered no further."

ANOTHER CASE.—His beautiful Spitz dog was much admired by a visitor, who put his hand on his head to pet him. The dog turned and bit him. A few days after this, the dog was sold, or given to another person whom he also bit, but they did not kill him, as is the common bad custom. The dog continued well as did the bitten persons. Now if they had killed the dog, what fearful anxiety they would have had, and if failing to go to a "mad-dog" doctor, they would doubtless soon have had false hydrophobia, believed by those who heard of it to be the real disease.

JOHN HOWARD, janitor of a church in Manayunk, was bitten on the wrist while standing at the church door, February 15, 1892. He did not take any notice of the wound for one and one-half hours. When the people were leaving the church, he then thought about it, and saw some blood on the wrist. Then he went to Dr. Custer, who dressed it—without naming hydrophobia—by applying nitrate of silver, then covered it with iodoform gauze. His pulse was then 90 to 96. Wound healed without further attention. October 28, almost eight months after the bite, he came again to Dr. Custer. He said he had slight chilliness, with spells of heat and aching and soreness in his body, but especially from the tips of the fingers of his right hand (the one bitten) up to the shoulder and back of the neck. There was no redness of the bitten part. He had not eaten that day before coming to Dr. Custer; seemed well; pulse 96. Next morning pulse was 110. The pains in hand, scapula and neck were worse; the pharynx was not red all over as in scarlet fever, but there were small, red, isolated patches, and also an eruption on the sides of the tongue, which Dr. Custer had seen described as a symptom of hydrophobia. On this Dr. Custer laid much stress, as pointing to rabies. The patient had no aversion to water, but when it had gotten somewhat down the throat, he would throw his arms above his head and make a motion with the jaws, as a person does when first stepping into a cold bath. Sometimes when the throat was filled he would jump up a foot or more as if to get air, his head being thrown back and elevated. Thursday he was thirsty, but when he drank acted as before, as if gasping for air. At midnight of 26th was worse. Dr. Custer was sent for—he was wildly raving and his wife was afraid of him. Dr. Custer then gave him ¼ grain sulph. morph., and before 8 o'clock in the morning, 2½ grains with ℥j bromide of potassium. No effect in producing sleep or contracting pupils. Pulse 117. Passed no urine from the evening when he took the first half grain of morphia until the evening of the 27th, about 36 hours, when the catheter was used. Friday Dr. Todd was called, and he and Dr. Custer both thought it a case of hydrophobia. Dr. Custer felt sure that the patient himself so regarded it, although not a word had yet been said about it. They advised his removal to the hospital, but a vestryman counselled a visit to Dr. Fry. The policeman's account of the trip as given to me is, "that he and another officer took him in a wagon. He rode quietly, talked to them, did not seem to be any way wrong. They asked Dr. Fry if he could promise to cure him. He said (in the man's presence) 'if he had not had a spasm he could. They,' meaning the Fry's, 'had cured them, even after having had a spasm. He would give him the medicine.' He did so, got his ten dollars and they started for home." Now mark what happened. They had barely started when he got spasms again and had them all the way home. While they were away at Lansdale, I saw a notice of the case and next morning, at 8 o'clock, I took the train for Manayunk. I was too late to see him. The officers, after having been up with him all night till 4 o'clock, had started with him to Blockley Hospital, and had then returned. All the way to the Hospital he had the spasms, as they called them.

CLINICAL NOTES*. — John Howard; white; aged 42 years; native of England; married; church sexton.

Admitted to hospital about 6 A. M. October 28, from Police Patrol No. 18, from Manayunk.

A friend who came with patient said he had been bitten by a dog on the 15th of February, 1893. The wound was on the dorsum of the right hand. The wound was *not apparent* on admission. It was said that ever since the bite he had been much worried about it himself, and that his friends had constantly worried him by talking of the dangers of hydrophobia occurring. Also that advertising quacks (?) had sent him much literature on the subject which had kept his mind constantly on the dangers of hydrophobia. It was said that he had been drinking "some," but not to be often drunk for the last two weeks.

On October 24th, 1893, four days before his admission it was said he had began acting strangely, to "bark," to be more worried than ever, and be anxious to go to Lansdale and consult a quack (?). He grew rapidly worse within the next 24 hours, being entirely maniacal at times, and finally went to Lansdale on the 27th of the month, for treatment. On his return home he became very violent and had to be restrained.

On admission to hospital his temperature was 102.8°, pulse 144, without tension, respiration 30, but not particularly labored. The expression was drawn, anxious, all the movements of the face appearing to be done under great tension, by jerks as it were, and yet there were no convulsions; the eyes were staring intently at whatever attracted them, but were moving about constantly, pupils moderately dilated and not rapidly mobile. The patient was constantly expectorating small masses of tenacious spittle, doing it with effort and throwing it far from him. He said very little and what he said was incoherent and more in moans than in distinct words.

There was no appearance of spasm or convulsion; the skin of the neck showed no unusual sensibility; the patient drank freely several swallows and then stopped, apparently from simple restlessness, before he had emptied the cup, and spat out some of the water. He grew more restless as the day advanced, having various hallucinations. He said he was afraid of "sulphur" coming from the screen around his bed; he could both see and smell it and was afraid it would choke him. He would jump up in bed in great fright when the nurse would go near him with towel to clean his face from saliva, saying that she wanted to choke him. He sank into a condition of exhaustive coma about 1 P. M., lying quietly, breathing labored, limbs absolutely limp, temperature 101.6°, pulse 128, respiration 24. He remained in this condition, not responding to stimulants until 5:30 P. M. when he died, having been the house about 12 hours.

The death was reported to the coroner, who sent for the body and posted it at the morgue, and at the inquest the coroner's physician stated that "the membranes and cortex of the brain were deeply congested and death due to Acute Mania."

TREATMENT.— Hyoscine hydrobromate gr. $\frac{1}{100}$ with morph. sulph. gr. $\frac{1}{4}$ once hypodermically. As cyanosis came on and continued he had three hypodermic injections of strychnine, gr. $\frac{1}{30}$ with digitalis gtt. XV. Also whiskey and ether by hypodermic method.

FALSE HYDROPHOBIA.

Testimony shows that, in the opinion of physicians who have well considered this subject, there is much reason to believe that false hydrophobia is a very common occurrence, while true hydrophobia in man is almost never met with.

I have already shown you that John Howard's case was evidently the result of long brooding over the fear of what might

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* *Department of Charities and Correction. Bureau of Charities, Philadelphia Hospital, Philadelphia, Pa. Daniel F. Hughes, Chief Resident Physician.*

PHILADELPHIA, Nov. 8, 1893.

My Dear Doctor Corson.—I am glad to be able to comply with any request of Dr. Corson's. I have been a firm and practical advocate of your scientific treatment of Lung and Puerperal fever ever since graduating in 1878. I was fortunate enough to have as teachers Dr. Gross, Sr. and Dr. E. Wallace, and they early had their commonsense views impressed on my mind.

The patient, John Howard, was admitted and died during my absence in Chicago. He was diagnosed as acute delirious mania by Dr. Roland G. Curtin, who was called in my absence. I having, when home, charge of all acute mental cases from the moment of their admission.

I enclose you copy of our records of the case.

Again expressing gratification at being able to comply with a request of one who I hold in such high esteem as yourself, I am,

My dear Sir,
Very truly,
D. E. HUGHES.

result from the dog bite, and the added fear produced by the unintentional but positive confirmation of those fears by the friends and by the physicians. While the result of the case in the Hospital, as seen by the physician there during his last few hours, and the post-mortem examination proved that it was a false case, the result of fear—*mental terror*.

The Earnest case, so extensively noised abroad and so unanimously believed by those who never saw the case, from the testimony of Mr. Burns was without a shadow of doubt a false one. There was in that instance no premonitory stage. It was mental terror, so strong as to take from its victim all control of his nervous system. Poor fellow! There he was, his mind confronted with the fearful fate, in his belief the certain result of the dog bite. No sleep, no drink, no food aiding the mental terror to drag him to the grave. It is not strange that four days in such a condition should end his life. And yet we all know that it was not rabies.

And Burgess' case. How instructive! A dog evidently mad, as they believed, and yet cured by a dose of castor oil, and the man bitten by him when in this apparently rabid state never affected by it, though taking no preventives. So, too, his second case. The Spitz dog. Had he been killed every one would have believed him mad, and the person bitten through fear of consequences would, in the opinion of the people, have died mad.

The justy eminent Dr. Wm. A. Hammond, of New York, I have already told you gives many most interesting cases of false hydrophobia. And to the case given by Dr. Leedom, I may add a case in my own practice.

In 1856 I was called to a tall, gangling young man who was suffering, the messenger said, from "some kind of spells." Through a heavy rain I made my way to the house on the Schuylkill Hills. On inquiring below stairs about the case, I was told they were sitting around the store, when this youth, of about 18 years, wriggled himself out of his chair into the fireplace close at hand, and rustled about in some cold ashes left there. The mistress of the house was evidently fearing some great danger to the youth. On going up stairs I found him stretched out on a bed with four men, one to each arm and one to each leg, holding him at full length. He opened his eyes to the utmost and stared at me but not a word would he reply to any question asked him. After feeling his pulse and observing his behavior for a few minutes—he was turning his head from side to side as far as he could get it and snapping his jaws together as if he was biting at those on the sides of the bed who were holding strongly to his outstretched arms—I retired and going to the mistress, the mother of two young men who were holding him, asked her what she thought ailed him.

"Oh, doctor, I don't know," she said. "What do you think is the matter with him."

"There is nothing the matter with him," I replied.

As if offended she said, "I don't like to hear you talk that way."

"Well," I said, "please listen to me. I will go with you to his bed-side and then without looking at him at all, will say to you, as though I regarded him as not knowing anything talked about, 'This is a very serious case, but bad as it is I think I can cure him. I want you to go downstairs and heat an iron to a red heat, and in the meantime I will give him a powder that, if it act well, will begin to make him better in five minutes, and in twenty minutes will cure him entirely; but if it should not, then we will strip him naked and draw that hot iron down over his backbone to the very end of it.'"

At once, her son who was holding an arm, cried out, "Why, doctor, won't it burn him?"

"Burn him? Yes, it will burn him to the very bone, but what of that? It will heal again, and nobody will see the scar there."

As the woman started to go down, she turned and asked, "What kind of an iron shall I heat, doctor?"

"Any kind. A plough cutter will do—the nose of a plough cutter will be the very thing."

He knew well what a formidable thing a red-hot plough cutter would be. She left to heat the iron and I dissolved a quarter of a grain of sulphate of morphia in a tablespoonful of water. When ready I said to him in a very imperative tone, "Open your mouth." Slowly he opened it and I poured it in. Then, sitting close to the bedside I took out my watch, and when five minutes had passed, I said, "He

has had it five minutes, and if it acts well he should feel a little better." And then looking him steadily in the face, said, "Are you any better?" He responded by a grunt in which I could not discern yes, but which showed plainly that he was understanding well what I asked. Still holding my watch so that he could see it, when the ten minutes had come I said, "Are you any better?" There was a very indistinct yes. The fifteen arrived and the response was a fair, audible, "Yes." I at once opened the door and called the mistress. "He is better; the medicine acts well, but keep the iron hot." Then turning to the son I said: "He will be well when the twenty minutes are here, I need stay no longer. It is almost dark, raining hard, and I must start for home at once. But William if it should not cure him perfectly, don't forget the hot iron. Draw it down his back from his neck to his tail." Away I went. I went so quickly, that he might not be restrained by my presence, and that my orders so imperatively given would convince him that he could not escape them.

The next day at ten o'clock I rang the bell, and the mistress opened the door. The moment she saw me she threw her hands above her head and said: "Well, doctor, this beats anything thing I ever did see. You had not been gone more than half an hour before he was down stairs dressed up and went to the barn to do his work."

I forgot to say that before giving him the medicine I said to the son, "Why do you hold him?"

"Why, doctor he would knock his brains, out if we were to let go of him.

"Well," I replied, "They are his own brains, let him knock them out. Let go of him."

They did so, and he began a furious attack on the head board with both fists, but he hurt his knuckles and exhausted himself, and it was after that I gave him the medicine.

But had he been bitten by a dog? They did not know, but they were all convinced that he had hydrophobia. They had had him but a short time and did not know what might have happened him previous to coming to them.

But we have other testimony. The recent deaths of Mrs. Hohman and Elmer Pickering, of Frankford, from alleged hydrophobia resulting from the bite of the same dog, and the opinion of Coroner Ashbridge that no such disease exists, has awakened interest and led some prominent physicians to express themselves on the subject. Dr. Chas. M. Dulles, who has for years made a special study of it said: "Hydrophobia is not a distinct or specific disease. It has no symptoms peculiar to itself. It is really but a combination of the symptoms of many other diseases; and in all the cases I have examined, I have never seen any symptoms which did not belong to other and specific diseases—those of the brain, nervous system or throat. Those who believe in hydrophobia now, are those who believed in witch-craft in the old colonial days. Fear is a very large element of it. It occurs often and flourishes in those places in which it is believed in. See how it is in Paris. People thoroughly believe in it there and have a dread of it, and the result is a large number of cases constantly. What is true of Paris is true of France. The Rhine separates the French from the Germans but a short distance. The Germans do not believe in hydrophobia. They have very few cases in consequence, I believe, of their belief.

"There was a recent case of alleged hydrophobia in this city, in which an eminent specialist on nervous diseases, two regular practitioners and myself were concerned. It was a typical case of hydrophobia; there were all the symptoms popularly supposed to indicate the disease. We performed an autopsy. The person died purely and simply from meningitis located at the base of the brain and the spinal column. Another case with a regular practitioner and myself. It was as regular hydrophobia as I believe anything can be. The patient died. I predicted that lesion of the brain would be found. The autopsy revealed just the conditions I had prophesied, but remained (to others—the public) one of hydrophobia. Another thing. It is very common for the bite of a dog to be cauterized with silver and hypodermic injections of morphine to be resorted to in the later stages. There is no case on record in which these treatments have been used and the patient recovered."

Dr. Charles Mills, the eminent specialist in nervous diseases, said: "I believe that eight cases out of every ten of alleged hydrophobia are not genuine, and I am

not convinced that it is a specific and distinct disease. I have seen several cases and have been concerned in several more, and have participated in three autopsies. Of five cases in which there was every symptom that is coupled with hydrophobia, four were undoubtedly due to other diseases, and possibly the fifth was also. Meningitis and epilepsy enter very largely into the composition of hydrophobia. Imagination also plays a large part. There is a specific nervous disease known as hydrophobia. I now have as a patient, a woman who has long suffered from it. She has most intense horror of dogs, and it is a fact that, although in very good health otherwise, this woman actually remained inside of her house for eleven months, not daring to go out. She could not be induced to do so. A short time ago her husband happened to tell her that a dog had brushed against him as he was walking along a street. The wife's fears developed to such an extent that it was possible to calm her only by destroying the suit that her husband wore when the dog brushed against him as he walked. It seems odd, don't it? But it is perfectly true. The sight of a dog from one of her windows, if his tongue is hanging out, or if there is froth at his mouth, is apt to give her convulsions. Recently she heard that a dog had a fit on Thirteenth street. She at once begged all her family to avoid the locality, as much as possible. Now, if that woman should be bitten by a dog what do you suppose the result would be? How long do you suppose she would live? She would be likely to die of convulsions in 48 hours. I agree perfectly with Dr. Dulles that Pasteur's discoveries and his treatment have done more harm than good."

Of the thousands, yes tens of thousands of persons who are loud in their belief and knowledge—as they call what they have heard about cases—not more than one in a hundred, if one in a thousand, has ever seen a case either of the true or of the spurious disease. So I feel like giving the belief of a coroner who has investigated many cases called hydrophobia, which proved fatal. In the case of Mrs. Hohman, of Frankford, already referred to, a post-mortem of whose body was refused by Coroner Ashbridge, he wrote as follows in defense of his act: "This I refused to do because, from my experience and standpoint, there is no such malady as hydrophobia." In human beings, I suppose he meant. "As it is classed to-day, and for the past year, I have made no post-mortem in such cases, because the results yield nothing, nor does it prove anything in the interest of science, or decide anything definite as to the cause of death. All that has ever been found in post-mortems in the past twelve years *is a congested state of the brain*, and this will be found in all cases of death from convulsions and the like. In the epileptic the symptoms are precisely like those of so-called hydrophobia: frothing at the mouth, rigid jaws and convulsions. I have observed the same things at post-mortems upon persons apparently in previous good health, who have died from nightmare, or horrors; the brain congested in a similar manner. To my mind it is the effect of the mind over the body, producing acute nervous strain and disorder; and as to the blood-poisoning theory, that will not stand investigation. The treatment of Pasteur has few believers. If one would see the symptoms of a person dying in an epileptic fit, and it was said he had been bitten by a dog, it would be at once pronounced the worst case of hydrophobia known."

Diarrhœa of Dentition.

In the (*Ciencias Medicas de Barcelona*) in the treatment of the diarrhœa of dentition, the following preparation is found of use:

℞

Subnitrate of Bismuth.....	4 gms	(℥j).
Lime Water.....	·8 "	(℥j).
Fennel Water.....	100 "	(℥iijss).
Syr. Orange Peel.....	20 "	(℥v).

One teaspoonful every three hours.

Acute Bronchitis.

Dr. Bartholomew uses:

℞

Tinct. Sanguinariæ.....	℥i.
Tinct. Lobeliæ.....	℥i.
Vini Ipecacuanhæ.....	℥ii.
Syr. Tolutani.....	℥iv.

M. Sig. Teaspoonful every three hours.

Thompson's Chloroform Liniment.

℞

Chloroform.....	2 ounces.
Alcohol.....	2 "
Ammonia Water.....	2 "
Spirit Camphor.....	2 "
Tincture of Aconite.....	2 "

Spirit nitrous ether, sufficient to make 16 ounces.

Acne.

Dr. Hilles (*Deutsch Med. Wooh.*) uses:

℞

Sulphur Iodidi	gr. x.
Lanolini.....	℥i.

M. Sig. Apply twice daily after washing the parts with hot water.

COMMUNICATIONS.

OPERATION WOUNDS OF THE THORACIC DUCT IN THE NECK, WITH A RÉSUMÉ OF THE TWO PRIOR RECORDED CASES AND TWO ADDITIONAL CASES.*

W. W. KEEN,† M. D.

When we consider the frequency with which operations are done on the left side of the neck in the vicinity of the junction of the jugular and subclavian veins for the removal of enlarged glands, for tumors, for goitre, etc., and of stab and other wounds, it is surprising that there are not a number of instances of wounds of the thoracic duct. The danger of wounding it may be greatly increased by the fact that Dieterich (Henle's *Anatomy*, 1876, iii. 453) has found the arch of the duct as much as 5½ cm. (over two inches) above the top of the sternum and touching the thyroid gland. Yet so far as my investigations have gone, I have only been able to discover two cases of wound of the cervical portion of the duct reported in surgical literature. To these to-night I add two more, one of my own, and another, the notes of which have been kindly furnished me by Dr. A. M. Phelps, of New York.

Even in war, wounds of the duct in any part of its course are practically unknown. In neither the Italian war of 1859, the Crimean war, nor our own late civil war, is there a single instance recorded.

CASE I. (Cheever's case.)—Dr. Cheever reports in the *Boston Medical and Surgical Journal* for 1875, p. 422, the case of a tumor of the neck, during the removal of which "the subclavian vein and a large vessel near the internal jugular were both wounded. The distended veins mixed up with the friable glandular growth gave way repeatedly under the forceps and ligature. At this time occurred a new source of difficulty. A transparent, viscid, coagulable, and colorless fluid ran out from the tumor and from the lower corner of the wound in quantities as large as an ounce at a time, some six separate times. Together with the dark venous blood, this fluid constantly obscured and filled the bottom of the neck whenever pressure by the finger or sponges were taken off." The inner two-thirds of the clavicle were then removed. "The subclavian artery was sought and pushed aside and an aneurism-needle passed between it and the vein, first out toward the shoulder and a ligature tied; and second, close to the sterno-clavicular articulation, where the needle and ligatures surrounded the venous trunks at or upon their junction in the left vena innominata. The artery was not wounded nor tied. All bleeding now ceased, but the transparent fluid still oozed out moderately. The wound was lightly packed with sponges and ferric alum; no hemorrhage occurred, and the transparent fluid did not soak through the sponges." The patient died from shock and exhaustion, thirty-six hours after the operation. "No formal autopsy was made, but an examination of the wound showed the subclavian vein tied externally, and also at the junction of the internal jugular and subclavian. The remains of the tumor extended two inches below the clavicle, but were enucleated without piercing the pleura. This fragment of tumor had incorporated into itself several venous trunks or sinuses caught and entangled in the gradual agglomeration of glands. There was no opening into the pleura, no sac running down into the thorax or axilla, no cyst in any direction. The source of the transparent effusion could not be traced. There would seem to be but little doubt that this fluid was lymph from a large branch of the lymphatics in the tumor, or more probably from the thoracic duct where it arches over to join the left subclavian vein. In contact with, if not surrounded by, the glandular enlargement, its thin and transparent walls were readily wounded in trying to remove the lower part of the tumor. No other source for the clear fluid could be found, there being neither cyst, hydrocele of the neck, nor pleural effusion to account for it. The

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fluid under the microscope exhibited no cells save a few stray blood corpuscles. The patient having fasted for twelve hours before the operation, there would be little, if any, of the milky emulsion of chyle in the duct.

"The fluid poured out of this wound coagulated after contact with the air in a firm jelly, just as blood coagulates. This no doubt was due to its fibrin. Its large quantity pointed to a considerable duct as its source, although it must be borne in mind that the whole lymphatic system of the neck was probably vastly enlarged, and secreted great quantities of lymph. Very probably the waste of nutritive plasma by this leakage of lymph in the wound hastened the exhaustion of the patient, and, if due to a wound in the thoracic duct, would have precluded his recovery."

Case II. (Boegehold's case, *Arch. f. klin. Chir.*, 1893, vol. xxix. p. 443.)—In March, 1880, Wilms extirpated a tumor as large as a fist from the left side of the neck of a stout man forty-five years of age. In the course of the operation Wilms gradually neared the junction of the subclavian and jugular veins. As he was carefully scraping the tissue with a sharp spoon, suddenly there poured out over the operation field a stream of whitish fluid the diameter of a straw, which mingled with the rather freely flowing blood. This fluid could not well be anything else than chyle, for a wounded lymph vessel would have given exit to a clear, or at the most a slightly yellowish, but not whitish, fluid. There was no abscess nor any purulent pleurisy. After this wound of the thoracic duct, the extirpation of the tumor was terminated at once. The milky fluid no longer escaped, and on account of the considerable hemorrhage the idea of securing it in the depth of the wound was abandoned. The wound was then packed with salicylic wool and an antiseptic bandage applied. The packing was removed the next day without any further appearance of the chyle. The patient recovered without incident, and six months afterward died, presumably from pulmonary metastasis of the carcinoma.

Case III. (Case of Dr. A. M. Phelps, of New York; personal communication.)—June 4, 1893, at the Mary Fletcher Hospital, Burlington, Vt., Dr. Phelps operated on a malignant tumor of the left side of the neck. "It was found that the jugular vein passed through the tumor, and this necessited the removal of three inches of the jugular, near its junction with the subclavian. The tumor extended downward underneath the subclavian vein and involved the deep muscles of the neck. The wound was dressed four days later. There had been a constant profuse discharge, which at first was supposed to be serum, but its color, like that of skimmed milk, and its source from a single point in the wound, as well as its quantity, soon forbade that presumption. I estimate that about three pints a day had been lost. It was sufficient to saturate daily ten or fifteen ordinary bed-sheets folded in a number of thicknesses, in addition to saturating the surgical dressings. The man was rapidly losing flesh. A consultation of staff was held on June 11th, and the consensus of opinion was that the thoracic duct had been severed. The point of a probe the size of a large knitting-needle inserted at the point of evacuation entirely stopped the discharge. The point from which the liquid issued was caught by forceps, which were allowed to remain in place three days. The patient gained a pound a day after the discharge was stopped, and made an excellent recovery."

The duct cut, in his opinion, was one of the divisions or ramifications of the thoracic duct, but the staff thought that the main trunk had been severed.

The fourth case is my own.

Case IV.—Miss S., aged twenty years, was first brought to me in November, 1892, by Dr. Melcher, of Mt. Holly, N. J. There was a small enlarged gland on the left side of her neck above the clavicle, a scar at a corresponding point on the right side, and another scar at the upper border of the right breast. From these two places showing scars, Dr. Melcher had removed glands which were undoubtedly tubercular. Just below the right clavicle and a little external to its centre was a tumor, evidently deep in the apex of the right axilla, firmly attached so as to be practically immovable, and extending, so far as could be ascertained, half way or more from the clavicle to the axillary border. It first appeared about a year ago. I judged it to be a series of enlarged glands, probably attached to the vessels. She had occasionally tingling and numbness in the right arm, and slight œdematous

swelling. Soon after she was here Dr. Melcher made an attempt to remove the tumor, but the hemorrhage was so great as to deter him, and he closed the wound, from which she made a good recovery.

Operation, Jefferson Hospital, January 28, 1893. I made an incision almost vertically in the axis of the body, from the clavicle about four inches downward. I came upon the tumor as soon as I was through the great pectoral muscle. Finding its extent, especially toward the axilla, greater than it appeared from the outside, I made two transverse incisions, converting the whole incision into a cross. I first dissected from the clavicle downward. I found the tumor adherent, not to the clavicle, but to the second rib and the costo-coracoid membrane. With a good deal of care and difficulty I was able to separate the upper border of the tumor from the clavicle and work my way downward and also outward toward the vessels. In a few moments I saw a part of the tissue collapse with inspiration, and I recognized that this was the subclavian vein.

I was finally able to remove the entire tumor, but only after one of the most difficult and tedious dissections I ever made. The tumor was a mass of enlarged glands extending three quarters of the way around the axillary vessels, the upper border alone being free. It was with the greatest difficulty that I could separate the tumor from the vein to which it was especially adherent, but I finally succeeded. The dissection took over an hour and the whole operation was nearly an hour and a half long. I button-holed the axillary skin at its posterior border and carried out a drainage-tube, otherwise closing the wound and dressing it as usual. The hemorrhage was moderate, not over eight or ten vessels requiring ligation.

February 11, 1893. Her recovery was rapid and gratifying. The highest temperature was 99.8°. The drainage-tube was removed in forty-eight hours, and the sutures on the third, fifth, and seventh days. On the eighth day she went home perfectly well.

Dr. Kyle reported as follows on the specimen: "Frozen sections from this specimen showed it to be tubercular. The sections were so arranged as to include portions of dense tissue, also the caseous mass. Macroscopically and on cutting through the specimen it resembled lymphosarcoma, which appearance could be produced by the enlargement of the gland, which would cause pressure on intervening tissue, giving it that peculiar fibrous appearance. By the methyl violet and blue stain the tubercular condition was easily recognized."

She returned to me December 12, 1893, with enlarged glands in the neck on both sides, just above the clavicles and in both axillæ, especially the right one. These glands were high up in the axilla on both sides and were apparently (especially on the right side) very adherent. In the neck the glands were rather peculiar, in that while they were very perceptible as tolerably large, nodular masses, evidently composed of a number of glands, the inner portion on both sides was soft, markedly lobular, and apparently contained some fluid. Those on the left side of the neck were larger and gave her a good deal of annoyance and pain, somewhat resembling in this respect those in the right axilla. I advised her therefore to have them removed.

Operation, Jefferson College Hospital, December 15, 1893. Present, Prof. Clayton Parkhill, of Denver, and Drs. Hearn and William J. Taylor. Drs. J. Chalmers Da Costa and Weaver assisted me. When the patient was etherized and recumbent, I saw a marked change in the condition of all the tumors. The one in the left axilla just below the clavicle could not be found. That on the right side was apparently very much diminished, as were both of those in the neck, the right one being partially perceptible and the left moderately so. The soft, fluid part of the cervical swellings had entirely disappeared.

The right axilla was opened by an incision passing along the border of the tendon of the great pectoral muscle. The operation was tedious and very difficult mechanically, by reason of the extensive and very dense adhesions from the periadenitis and from the former operations. The adhesion to the axillary vein was particularly solid and sometimes was almost as tough as though they had been made of leather. However, after very slow, careful, and patient dissection I was able to get out a large mass of glands.

Having finished the dissection of the glands in the right axilla, I next made an

incision above the left clavicle to remove the glands there. There was a great deal of periadenitis, creating very firm adhesions, especially downward and inward toward the junction of the left internal jugular and subclavian veins, both of which were laid bare nearly, but not to their junction. I was carefully dissecting these adhesions away with Allis's blunt dissector, when suddenly I made a small opening in what was apparently an adhesion, and instantly there welled out from it a perfectly limpid fluid. At first I thought I had opened a cyst; but, on observing that the fluid escaped continuously and with a very evident respiratory rhythm, and that the fluid apparently flowed from a tear one-fourth of an inch in length, from a tube about one-eighth of an inch in diameter, it occurred to me that it was either one of the dilated left lymphatic ducts just before their entrance into the thoracic duct, or that, more likely, it was the thoracic duct itself. About two ounces of fluid escaped in all. I sucked up a little of it with a hypodermatic syringe. It congulated in a few minutes. Dr. Da Costa suggested that the distinction between the two fluids, *i. e.*, from the lymphatic and the thoracic ducts, could be made by the fact that the fluid in the thoracic duct should be milky, but as she had taken no food since the previous evening (eighteen hours) this gave no help. Against its being the thoracic duct was the fact that it was just behind the upper border of the clavicle and, therefore, lay too high for the thoracic duct; but as the glands were being dragged upward, this objection I felt was not valid. Also, although I could introduce a grooved director into the tube from which the fluid was escaping, the director only entered about one-half to three-quarters of an inch when it met some obstacle. In such a locality and in such a novel experience, I did not care to enlarge the boundaries of science at the possible expense of my patient, and hence I decided to desist from further exploration and remedy the apparent mischief at once. Accordingly I closed the opening by the pressure of one finger, and carefully removed the glands, which were almost entirely loosened at the moment of the accident. Then I seized the two edges of the opening with forceps, and by means of the finest Hagedorn semi-circular needle and fine silk I closed the wound. Some little leakage still took place. There was also a little of a similar fluid from the upper part of the wound, but it seemed a general oozing rather than from any distinct vessel. The remainder of the operation was completed with ease, although it was extraordinary what a large mass of glands I removed, in view of the almost utter inability to perceive them when she was etherized and recumbent. Nothing was found to account for the soft and apparently fluid part of the tumor noticed when she was first examined. This soft mass was at least one and one-half inches external to the site of the opening into the thoracic duct and nearly as much above it.

A drainage-tube was inserted into the wound, but was removed after five hours, having served its function of conducting off most of the bloody wound-fluids, and I feared that its retention would be followed by a lymphatic fistula. Any escape of lymphatic fluid from the thoracic duct I thought should be repressed as quickly as possible by absolute closure of the wound. During the five hours the amount of wound-fluids was very large for so small a wound, amounting to nearly a pint, and its light color showed that the small amount of blood was diluted with a great deal of clear fluid. The dressing the next day was partially saturated by probably an ounce or two, and after that was dry.

On the eighth day after the operation, having made an absolutely uneventful recovery, she went home. Not the slightest evidence of trouble appeared in the wound in the neck, neither swelling, redness, nor pain. Her weight on December 11th, four days before the operation, was 106 pounds and eight days after it, in about the same clothing, 103 pounds. Her highest temperature was 99.8°, on the evening of the operation. The following table shows her weight since the operation:

	Weight.
December 28, 1893	100 pounds.
January 6, 1894	101 "
" 12, "	100½ "
" 19, "	100¾ "
" 26, "	100¾ "

March 15, 1894, same weight; her cough troubles her considerably.

Dr. Kyle reported that in the fluid there were many lymphocytes or lymph-corpuscles of different sizes; some few were slightly granular, and there were many fat or oil-globules, small in size, but large in number. The macroscopic appearance of the fluid was slightly opaque.

REMARKS.—First. The anatomy of the thoracic duct. As has been shown here to-night in the beautiful dissections of Mr. Ward Brinton, the thoracic duct does not always empty by a single mouth at the junction of the left jugular and subclavian, but is apt sometimes to break up into two or three ducts or even into a delta, some of the branches emptying into each of these large veins, and, as Dr. Phelps finds from his dissections of the duct, into other deep veins of the neck. Verneuil (*Le Système Veineux*, 1853) states that Boullard in twenty-four cases found it to empty by one mouth eighteen times, by two mouths three times, by three mouths twice, and finally once by six mouths, of which two opened into the subclavian, two into the jugular, and one each into the external jugular and the vertebral veins. Lacauchie (Henle, *l. c.*) gives an instance of four terminal canals. In twenty-one injections of the duct Boegehold found that in two cases it divided at its anastomosis with the veins into three or four branches, and in one case, about two inches before its termination, a branch as large as a straw passed to the subclavian, the main trunk emptying at the angle between the subclavian and the jugular. It is, therefore, possible in all these cases of wound that not the main trunk, but one of these branches—perhaps, as in Boegehold's case, a branch as large as a straw—was injured. Bayford (Boegehold, p. 447) records one case of dislocation of the thoracic duct from a curvature of the spine, which might increase materially the possibility of its being wounded should an operation have to be done in such a case. Boegehold (p. 455) also quotes a case from Scherb of the partial obstruction of the duct by a calculus. The occasional great height of the final curve of the duct in the neck has already been mentioned.

Secondly. The character of the fluid. There could be no possibility that the source of the fluid was other than the thoracic duct in Boegehold's and Phelps's cases, as, from its milky color, the fluid was evidently chyle. In the other two cases the fluid has been so clear that it resembled serum. I do not know the relation of the hour of operation to the hour of the last meal in Cheever's case. In my own case the patient, having had two prior operations, and suffering from ether nausea, had refused to eat any breakfast whatever, and when I operated, at twelve o'clock noon, it was eighteen hours since she had eaten the previous meal. The quantity of the fluid in Phelps's case was very extraordinary, and leaves no doubt that it could only have been from the thoracic duct. In Cheever's case and my own the quantity and character of the fluid make it reasonably certain that it was from the duct, but it is not so demonstrably sure as in the other two cases.

Third. Treatment. Cheever's case was so speedily fatal from other reasons that no inferences can be drawn from it. In Boegehold's case packing was sufficient to arrest the flow and the patient recovered. In Phelps's case pressure-forceps arrested it entirely. In my own case the suture of the vessel was perfectly feasible, and the result was most satisfactory. It seems to me clear that if this procedure can be adopted it should always be done. I very anxiously watched the weight of my patient from week to week for the first few weeks after the operation. Then, finding that she was not losing ground, it was clear to me that she had permanently recovered from the accident, which at first caused me much anxiety.

Fourth. Experimental researches. Boegehold, so far as I know, is the only one who has tested the question by experiment. In his first two experiments, in dogs, he exposed the thoracic duct at its entrance into the veins and wounded it with scissors. Pneumothorax followed, but disappeared within five days. Eight days after the accident the dogs were killed. No trace of pleurisy was found, and the duct at the level of the fourth dorsal vertebra was surrounded with a thin whitish-red clot of fibrin. The duct was divided for over one-fourth of its circumference. In the next three experiments the duct was cut obliquely. On the following day the dogs were evidently sick, with a rapidly increasing frequency of respiration. On the evening of the third or fourth day they died, and at the autopsy the pleural cavity was found full of chyle. The cause of death was compression of the heart and lung from effusion of chyle. In the sixth and seventh experiments he placed a canula in the duct. This was followed by suppurative pleurisy, with death respectively on the fourteenth and tenth days. At the autopsy the pleura was found covered with fibrinous clots, but as the fever had sub-

sided on the fifth day, he ascribed death to the loss of chyle. In the eighth experiment he ligated the ends of the duct in the neck. On the fourth day he inserted his finger into the pleural cavity. The duct was easily found as it was distended with chyle. He wounded it slightly with scissors, and seventy-two hours later the dog was killed. The duct and the receptacular were distended with chyle, and at the site of the wound a small red fibrinous clot was found. Very little chyle had escaped on account of the smallness of the wound.

As a result of his experience he thinks that the complete integrity of the duct for the support of life is not absolutely necessary. He gives a number of instances of complete obliteration or compression of the duct without any symptoms. The collateral circulation of the lymph seemed to be established, and Schmidt and Mulheim have shown experimentally that the closure of the duct in dogs, in whom the canal is always single, did not affect either the digestion or the absorption of albuminous matter. An injury followed by closure of the duct, therefore, is not necessarily fatal. The danger is that if the duct is not closed, either compression of the lungs and heart from the constantly augmenting accumulation of chyle in the pleural cavity will prove fatal, or that the loss of nourishment will be lehtal if it escapes externally. Wounds of the duct seem to be entirely capable of healing. Should the heart and lungs be compressed, clearly the pleural cavity should be opened in order to avoid the immediate danger of death from compression, as is shown by Kirchner's case (*Arch. f. klin. Chir.*, 1885, p. 156). This seems to have been an undoubted and severe rupture of the thoracic duct within the thorax, and yet was followed by recovery. It shows that even rupture of the duct may not necessarily be fatal.

A little girl, nine years of age, healthy although not very strong, was pushed violenty against a window-sill, injuring her at the level of the third rib. Marked orthopnœa, with cyanosis and sweating, and dilatation of the nostrils followed in the course of two weeks. The right half of the thorax was broader than the left up to the level of the spine of the scapula and the third rib. The heart pushed to the left, and the liver extended two fingers' breadth below the border of the ribs. The temperature was normal. The right chest was punctured in the fifth intercostal space and a litre of fluid resembling milk was poured out. Examination by the microscope showed undoubtedly that it was chyle. Ten days later the dyspnœa was so great that puncture was again contemplatad, but under warm baths and slight purgation by senna the improvement was such that puncture was not done a second time, and complete recovery followed. In six months the child was better than prior to the attack.

Kirchner states that, even including some uncertain cases, there are but seventeen on record of injury of the thoracic duct, either in the neck, chest, or abdomen; six resulting in chylous ascites; nine in chylo-thorax; one of hydrops lacteus from the collection of lymph in the mediastinum; and finally, the case of Boegehold, the only instance he gives of injury in the neck. The three additional cases I have reported here bring the total number up to twenty, and of wounds in the neck alone to four.

Busey (*Trans. Assoc. Amer. Phys.*, 1889, vol. iv. p. 76) refers to a number of cases of injury to peripheral lymphatics by bleeding, etc., and also the effusion of chyle into the thorax, abdomen, tunica vaginalis testis, etc. In the discussion Welch said: "I do not think that the mere occlusion of the thoracic duct, still less obstruction to the venous flow in the subclavian veins, is followed by serious interference with the flow of lymph and chyle. I have found the thoracic duct completely occluded by a tuberculous thrombus in a case of acute miliary tuberculosis without any such effect."

The pressure in the thoracic duct is not very high. According to Weiss, in the neck it reaches from 9 to 15 mm. of mercury.

WITH A GRAIN OF SALT.—Mrs. Hicks. "I saw it stated in a paper that mosquitoes have twenty-two teeth."

Hicks.—"Then they probably have eleven."

Mrs. Hicks.—"Why eleven?"

Hicks.—"It isn't safe to believe over half you see in the papers."—*Truth.*

A RUSSIAN scientist has succeeded in tracing all man's disease to the fact that he wears clothes.

TRANSLATIONS.

A RARE CASE OF SPONTANEOUS GANGRENE.†

Dr. Zeller reports the case of a chlorotic patient, aged 20, who had experienced pain and weakness in the joints of the right arm for the past year; this was followed by tingling sensations in the hand and bluish discolorations of the finger tips. These manifestations were at times accompanied by a complete loss of sensation. One of these attacks was followed by necrosis of the fingers of the right hand, extending to their middle joints, and necessitated amputation. The arteries did not spurt when cut. Angiospastic gangrene was diagnosed, there being an absence of any other etiological factors.—*Berliner Klin. Wochen.*, 1893, No. 52.

—W.

THERAPEUTICAL SUGGESTIONS FROM FOREIGN JOURNALS.*

CHRONIC CONSTIPATION.

The (*Gazzetta Medica di Roma*, No. 5, 1894) advises the following preparation in chronic constipation:

℞

Aloes,	0	25	(grs. iv).
Sulphate Strychnine,	0	015	(gr. ¼).
Extr. Belladonna,	0	09	(gr. j ½).
Powdered Ipecac,	0	35	(grs. vss).

Sufficient for twelve pills. One every evening.

IRRITABLE BLADDER.

Dr. W. Chun (*Le Progrès Médical*, No. 11, 1894) speaks highly of the following formula in irritable bladder-polakiuria:

℞

Benzoic Acid,	4	0	(3j).
Borax,	6	0	(3jss).
Water,	180	0	(3vss).

A soupspoonful three times a day.

This mixture will rapidly quiet the desire to urinate so frequently especially when it is due to an excess of phosphates in the urine.

A LOCAL APPLICATION FOR UTERINE CANCER.

Dr. Lucas (*Le Progrès Médical*, No. 11, 1894) advises after the diseased surface has been carefully cleaned, local application of the following powder:

℞

Powdered Benzoin.
Powdered Iodoform.
Carbonate Magnesia, ää 1.0-2.0 (grs. xv-xxx).

It diminishes the fetid discharge and prevents ulcerations around the vulva and perineum.

ABSCESSES AND ULCERS OF THE CORNEA.

Prof. de Wecker (*Rivista Clinica E Terapeutica*, No. 2, 1894) claims that the modern rational treatment of ulcers and ulcerating abscesses of the cornea should consist of curetting the ulcer with a small and sharp curette with antiseptic irrigation. There is no destruction of healthy tissues as with the cautery. The remaining corneal lesion will rapidly heal without reinfection under an occlusive antiseptic bandage. After curetting it is necessary to irrigate the cornea with an antiseptic solution for some time in order to insure perfect asepsis. He proceeds as follows: With a small sharp curette the ulcer or abscess is scraped until all the white portions are detached, then profuse and prolonged irrigation with a 4 per cent. boric acid solution, and finally, an occlusive bandage.

INJECTIONS OF ARTIFICIAL SERUM IN NEURASTHENIA.

Dr. Cheron (*Revista Medica de Bogotá*, February 15, 1894) claims to have obtained beneficial results in the treatment of neurasthenia with hypodermic injections of an artificial urine prepared after the following formula:

℞

Chem. Pure Sulphate Soda.	10	0	(3ijss).
Chem. Pure Phosphate Soda	5	0	(3j¼).
Chem. Pure Chloride Soda.	2	0	(grs. xxx).
Crystall. Carbol. Acid.	1	0	(grs. xv).
Distilled (boiled) Water	100	0	(3iijss).

Inject five to ten grams (3j¼-3ijss) of this solution every day or every third day.

† Translated for THE MEDICAL AND SURGICAL REPORTER by the translators W. A. N. Dorland, M. D., M. B. Werner, M. D.

*In charge of the Translator, F. H. Pritchard, A. M., M. D.

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SATURDAY, MAY 12, 1894.

EDITORIAL.

THE D. HAYES AGNEW MEMORIAL.

When the REPORTER was called upon to chronicle the death of this great surgeon, it expressed the hope that "by the right of great powers and many virtues, and the beneficent uses made of them, Dr. Agnew's memory should be secured to other generations than that to which he belonged. He did too much for those among whom he lived and to whom he rendered unselfish service, for them, without discredit, to fail to build some tribute to his memory—something to further the great causes to which he devoted all the energies of his mental and moral faculties; something typical of his noble example, of the purity and courage of his life, of his unselfishness to his profession and to humanity."

"Hundreds of public-spirited men, who knew and loved Dr. Agnew in life and appreciated the stalwart manliness of his character, have a common interest and pride in his name and fame. It would be their pleasure, and duty as well, to aid such a work of love, honor and gratitude."

This hope seems now about to be realized and it is a pleasure to the REPORTER to give endorsement to the following:

The D. Hayes Agnew Memorial Committee, organized a year ago to secure a lasting memorial of Dr. Agnew in connection with the University Hospital, have pleasure in reporting that subscriptions have been promised of sufficient amount to give reasonable assurance of the speedy and successful carrying out of the project.

The plan includes not only the Children's Ward (for the building of which this Associate Committee was established and for which it is so earnestly laboring), but also an amphitheatre and ward class rooms, with wards for men and for women,—the whole to be a model in perfection of details and completeness of appliances, and thus a fitting representation of the wonderfully full and complete work of Dr. Agnew.

The State Legislature, at its last session, made an appropriation of $80,000 to the University Hospital for building purposes, provided that an equal sum of $80,-

000 be raised by the friends of the Hospital, and paid in cash, available for construction purposes. The Managers of the Hospital, appreciating the eminent propriety of our movement, have consented to give to the entire wing the honored name of D. Hayes Agnew.

Toward the additional $80,000 to be so raised, about $60,000 can now be counted upon as available in cash on or before May 1, 1894, leaving only about $20,000 more to be secured by that time, so that building operations may begin this spring, and the State appropriation be drawn and expended within the two years contemplated in the Act.

It is to be hoped that, in addition to the building fund, there may also be secured a sum sufficient for the beginning of an endowment. Such a memorial will best attest the affection inspired by Dr. Agnew's life of usefulness and the example of devotion to his profession, both as teacher and practitioner.

The grant by the Legislature is a recognition of the work done by the University and its Hospital, to which Dr. Agnew gave the best years of his busy life, and the subscription supplementing and securing that appropriation will show how his many friends, patients and students honor his memory.

All those who desire to join in this memorial of a great surgeon and good man can do so by sending their subscriptions to the Treasurer, Mr. Eugene Delano, of Messrs. Brown Brothers, at the banking house, southeast corner of Fourth and Chestnut Streets, Philadelphia.

By order of the Committee.

J. S. MacIntosh, D.D.,
Chairman.

J. G. Rosengarten,
Secretary.

Wm. Pepper, M.D.,
Provost of the University.

THE MEETING OF THE STATE MEDICAL SOCIETY.

The ensuing week will be one of much interest to the medical profession of this state, as it will witness the annual session of the State Medical Society of Pennsylvania. The meeting this year was to have been held at Gettysburg, but circumstances compelled a change of place and the State Society accepted the invitation extended by the Philadelphia profession to become its guest.

Aside from the interest and importance of the meeting as a scientific body, preparations have been completed for the social entertainment of the visiting members and their friends. In addition to the usual courtesies, arrangements have been made for a theatre party, to be followed by refreshments, on the evening of Thursday, May 17th. The play will be "The Princess Bonnie" at the Chestnut Street Theatre.

Efforts are being made to enable the delegates of the State Society to accept an invitation extended by the Mayor and citizens of Asbury Park, N. J., to visit that famous resort and enjoy its hospitalties.

A year ago, at the suggestion of the Reporter, the citizens of Asbury Park extended an invitation to the American Medical Association to hold its meeting of 1894 at that place, and accompanied their invitation by a guarantee of remarkable inducements, but the Association accepted the invitation to the Pacific coast.

At the request of the Reporter, Asbury Park will again extend the invitation for the meeting of the Association for 1895, and the present invitation to the State Medical Society is to enable its members, and especially those who are to attend the San Francisco meeting, to see for themselves the superior attractions and facilities possessed by Asbury Park.

The Reporter would be glad to see such of its friends as may find time to visit its offices during their stay in the city.

ABSTRACTS.

OUR PRESENT KNOWLEDGE OF THE CURE OF MALARIA BY MEANS OF QUININE.

Professor C. Binz (*Cent. f. die Med. Wissen.*) states that just twenty-six years ago he opposed, in the pages of the *Centralblatt*, the then generally-accepted theory that the curative action of quinine in malaria is developed through the nervous system, and propounded the theory that quinine in all probability acts as a protoplasm poison on the pathogenic micro-organism, at that time undiscovered, which is at the root of all paludism. It has now been discovered that all forms of malarial fever are brought about by organism of the genus amœba, which penetrate the bodies of the red blood-cells, at whose expense they increase in size, finally sporulating and destroying their host. Laveran, who first discovered and described the parasite of tertian ague, also investigated the action of quinine on that organism, and found that when microscopical preparations of the parasite were treated with quinine, the vitality of the disease-germ was speedily destroyed, a fact which has been substantiated by Marchiafava, Celli, Grassi, and Feletti. The influence of quinine on the malaria parasites has also been studied by examining the blood of malaria patients before and after the exhibition of the drug. In this instance the investigations of Laveran, Romanoffsky, Bacelli, Golgi, Marchiafava, and Bignani established the fact that the parasites were killed by the quinine absorbed into the blood.

Dr. Mannaberg, who has recently investigated this question in the malarial districts of Dalmatia, Istria, etc., finds, among other things, that about three hours after the exhibition of from 7 to 15 grains of quinine, the amœboid movements of the amœboid form of the parasite of tertian ague slacken to a very perceptible degree, and that after a lapse of a further period of three to six hours, the number of parasites in the blood of the patient greatly diminishes, while many of those still left are torn and mutilated. On the full-grown parasite of tertian ague quinine either produces a complete cessation of all movement in the pigment, whereby the parasite acquires a glittering, cloddy appearance, as though coagulation had set in, or else dropsical swelling is set up, or, finally the parasite falls to pieces. Shortly after the exhibition of quinine, medium-sized parasites of tertian ague develop intense activity. It appears that quinine possesses a stimulating action before causing coagulation and immobility. This phenomenon has also been observed by Bacelli. According to Golgi, the medium-sized parasites of quartan fever acquire a glittering appearance and tendency to shrivel when the patient receives quinine internally; the large forms, however, become distended, their pigment exhibits lively oscillatory movements, and they frequently contain vacuolæ or abortive spores.

About three hours after the exhibition of a dose of 7½ grains of quinine, the nucleoli of some of the amœbæ of the milder forms of true quartan had either partially or entirely lost their tinctorial characteristics. After twelve hours of the treatment stainable nucleoli were hardly met with at all, most of the parasites having broken up into irregular fragments.

In those forms of malaria which are not curable by quinine that drug has no effect whatever on the parasites present in the blood. Bacelli, however, has found that many such severe forms which defy the ordinary method of treatment may be speedily cured by injecting the usual dose of quinine into a vein.

In spite of certain differences on minor points, Mannaberg and the other investigators one and all agree that quinine is a direct poison for the malaria parasite, and that the therapeutic doses employed are non-injurious to the cells of the human organism. Any assistance from the nervous system in the process of cure is neither evident nor necessary.

With regard to the prophylactic action of quinine, it is to be noted that the drug disappears very gradually from the blood and in an almost unaltered condition. By this means any young amœbæ and spores are kept in constant contact with the drug and are thereby checked in their further development. As to the part played by the leucocytes, it appears that phagocytism is prominent in cases of spontaneous cure of malaria, but not when quinine is employed. — *Provincial Medical Journal.*

THE NECESSITY OF PROMPT TREATMENT OF TUMORS OF THE BREAST.

(H. R. Coston, M. D., in *Va. Med. Mo.*) The frequency with which one meets cases of cancer of the breast in its various forms is ample excuse for occasionally calling attention to its relief. During the last few months two cases have fallen under my observation which strikingly illustrate the necessity of more care on the part of physicians in dealing with cases of "tumors in the breast."

A tumor situated anywhere in this gland should always be looked upon with suspicion. However small it may be, it does not relieve doubt of its malignancy. Although not larger than a split pea, it may be the beginning of a slow and painful death if not promptly and vigorously treated.

Carcinoma is regarded by most authorities at the present day as primarily a local disease. Remembering that 90 per cent. of all tumors of the breast are malignant, how imperative it is that the family physician be prepared to give the family and patient the proper advice.

Let us see what a few of the recognized authorities on this subject have to say in regard to the treatment of such cases.

Treves (Operative Surgery) says only 5 per cent. die of the operation.

Gerster says the large number of relapses and high death rate are due to the tardiness of the family physician in advising operation, and the failure of the patient to heed the advice.

His mortality has only been 3 per cent. after operations for the removal of the breast (*Aseptic and Antiseptic Surgery*).

Again, hear this: "The greatest physical evil which can befall a human being is to become infected with malignant disease. * * * The rule should be held imperative that all cases which, after a short trial of remedies, still remains doubtful, should at once be subjected to the knife."—Holmes' *System Surgery*, Vol. III, page 709.

A tumor of the breast occurring after the thirtieth year in either sex, should be excised as soon as discovered.

Gross had a mortality of only 3.7 per cent. of all cases operated, although he often removed large portions of the pectoralis major muscles along with the gland. He has an absolute cure in 21 per cent. of *all* cases.—*Am. Sys. Sur.*, Vol. II, page 319.

The treatment of cancer can only be undertaken by the surgeon since, up to the present time, all the specifics introduced, either by regular practitioners or by charlatans, have proved quite inefficient, if not harmful.—Quain *Dic. of Med.*, page 104.

Thomas Bryant, of London, has a mortality of only 6.7 per cent., and only 3 per cent. of the whole were attributable to the operation.—*Surgery*, page 778.

J. D. Bryant says 9 per cent. never have a recurrence, and an average of one year is added to the life of cases in which there is a recurrence.—*Oper. Surg.*, page 480.

The above are sufficient quotations to show what the present opinions of men, whose ability cannot be questioned, are. And they also show what the prognosis is, both as regards the immediate effect and the prognosis as regards a return of the disease. I could go on citing authors *ad infinitum*, but it is useless. With the present lights before us, no one should hestiate, when a case of tumors of the breast is presented to him, to immediately recommend its removal.

But there are many who, notwithstanding all this, hold up their hands in holy horror and say: "Keep your hands off that lump." A case in point I have now under observation.

Mrs. W., aged 34, came to me two years ago with tumors the size of a hen's egg in each breast. I immediately recommended their removal, together with the axillary glands, which were then becoming enlarged. The woman was willing and anxious for an operation, but the husband objected, and said they would go home and "write" me about it. That was the last I heard of the case until a few weeks ago I was asked to see her, when the case was simply hopeless from extension and systemic infection. It then developed that the family physician had urged them to have nothing done.

A second case just similar has just died and left a houseful of little children to be reared motherless.

Now, in such cases, what a responsibility the family physician takes upon himself when he says: "Have nothing done to that tumor." Take the first case; two years and more have elapsed since the woman first presented herself for operation. It was then, without doubt, a local disease, and thorough removal would have freed her from the disease, and saved her a slow, painful death. We all know that it is *always* a fatal disease without operation; and even should only 9 per cent. have a perfect recovery, it is just nine out of every hundred cases saved from a most loathsome disease and slow and exceedingly painful death. But it is unfair to make 9 per cent. the standard, for there are those who have a perfect result—namely, never a recurrence—in 21 per cent. of all their cases.—(Gross *loc.cit.*) In the event that the disease should recur, we have shortened the stage of ulceration by so much time as may elapse between the operation and its recurrence. Even this is a great gain, as it relieves the mind for a certain length of time and saves the patient and friends much mental worry.

Should the tumor be one of benign nature, no harm would be done the woman, and she would be saved the risk of its degenerating into one malignant in nature.

To sum up, we may say: *Every* tumor developing in the breast in either sex, at whatever age, should be at once extirpated and the glands of the axilla removed with the breast and pectoralis major in cases of extended disease.

The *facts* should be set before the patient in a truthful manner, neither exaggerating the hope of an absolute cure or the immediate dangers of the operation.

ACUTE MUSCULAR ATROPHY OF THE SHOULDER FOLLOWING A TRAUMATIC INJURY TO THE CRANIUM.*

Dr. V. Idzinski reports (*Wiener Med. Presse*, No. 52, 1893): The patient, aged 24, soldier, received an injury to the skull in the right parietal region; the bone had not been exposed. Two weeks later he noticed a decided weakening of the left shoulder, which increased rapidly and necessitated his admission to the hospital some weeks later. An examination showed a marked atrophy of all the muscles of the left shoulder—sensation, pressure, or temperature unimpaired.

Sensation for pain normal, skin and muscle reflex unimpaired; at no place painful spots.

The author diagnosed the case one of cerebral atrophy, which he based upon the following conditions present:

1. Anatomically—the injury was in the region of the motor centres and corresponds to the right sulcus centralis.

2. The atrophy developed in this region and followed the laws adopted, by extending to the left side, or opposite side.

3. The diagnosis was verified by exclusion of all other diseases.

Anatomically, the author believes that a molecular change took place in the brain substance as a result of the injury.—*Centralb. f. Chirurg.*, No. 8, 1894. W.

* Translated for THE MEDICAL AND SURGICAL REPORTER by M. B. Werner, M. D.

Barbers' Itch.

Chem. and Drug. gives this formula:

℞
Ichthyoli..... gr. xx.
Acidi Salicylici..... gr. x.
Hydrarg. Oleat. (10 per cent.)..... 3ii.
Olei Lavandulæ..... m iii.
Lanolini..... 3vi.

M. Sig. Keep constantly applied to affected parts.

Tubercular Abscesses.

Billroth treats tubercular abscesses as follows:

℞
Iodoformi..... 3ii.
Glycerini..... 3liss.

M. Sig. After evacuating the pus, inject into the abscess cavity.

Hemorrhoids.

℞
Iodoform..... 3ij.
Acid. Tannic..... ʒj
Ext. Belladonnæ..... gr. xv.
Vaseline..... 3j.

M. F. ungt.
Sig. Apply on cotton tampon.

SOCIETY REPORTS.

THE CLINICAL SOCIETY OF LOUISVILLE.

February 13, 1894.

[Stenographically Reported by C. C. Mapes, M. D.]

MONSEL'S SOLUTION IN THE TREATMENT OF DIPHTHERIA.

DR. P. GUNTERMANN: I want to give my testimony to a drug that I have used for the last two years exclusively in the treatment of diphtheria, *i. e.*, the local application of the sub-sulphate of iron (Monsel's solution). Since the report of some physicians from Bowling Green, before the Kentucky State Medical Society, I have treated all cases of diphtheria with this solution, and in no case have I seen any trouble, and they have all gotten well. The statement of the Bowling Green physicians was to the effect that they had treated 250 cases by this method with only one death. I have treated in all about eighteen cases with Monsel's solution, with no deaths thus far. I was called to see the last case three or four days ago; the attack was a very severe one, but after the second application of Monsel's solution the membranes separated and the child has rapidly convalesced. In another family of three children, the oldest, aged about eight years, died of diphtheria, pronounced so by the attending physician, and also by one of our most prominent specialists who was called to do an intubation. Everything seemed to be all right, but the child died. I was called afterwards to treat the surviving children suffering from the same disease, and under the use of Monsel's solution they made rapid recoveries.

I simply wish to give my testimony in favor of Monsel's solution in the treatment of diphtheria, confirming the statement made by others before the State Medical Society. Since the results have been so favorable, I have used nothing else. It should be employed liberally and often. I make a mop like a brush of absorbent cotton, saturate it with, perhaps not less than a dram of the solution, and swab out the throat thoroughly.

DISCUSSION.

DR. J. W. IRWIN: I have listened with a great deal of interest to the remarks made by Dr. Guntermann concerning the use of Monsel's solution locally in the treatment of diphtheria. I was trying to think just when I had made use of that drug myself, and I recollect now that it was in the spring of 1874. I was called to see a few cases of diphtheria in the country, about twenty-six in all, in a little village near Evansville, Indiana. Four or five children died in one day. They had been sick for two or three days only, it being a very malignant form of diphtheria. I had just read an article written by somebody in Pennsylvania, who had spoken of the wonderful effect of Monsel's solution in diphtheria and like every new thing it was lauded to the skies. I applied Monsel's solution of full strength. In those days absorbent cotton was not as much in use as now, and I do not think at all, at any rate I used sponges; I saturated them with Monsel's solution and had applications made three or four times or oftener each day. Out of the twenty-six cases which came under my observation at that time, not in a dying condition when I was called, twenty-one of them recovered. I then thought it was an important thing to know that we had such a powerful and effective remedy against diphtheria. In the next cases I saw I was less fortunate with the use of Monsel's solution; there were three children taken ill in one family and all died notwithstanding the prompt use of Monsel's solution. The fourth child was not taken ill at the time the others were, and I thought certainly Monsel's solution applied early in that case would prevent its taking the disease at least in a violent form. A few days later this child, about six years of age, was taken ill and Monsel's solution (Squibb's) was used in full strength, to which solution ten per cent. of pure carbolic acid was added, believing in the germicidal effect of carbolic acid, as it was shortly before that time Sir Joseph Lister had made his well-known experiments with carbolic acid, and the idea of antisepsis was prevalent. Neither Monsel's solution nor carbolic acid had any effect in arresting the disease, notwithstanding the fact that both were faithfully applied when the membrane first appeared as a minute patch. The case went on from bad to worse until the child died, and thus four children in one family died of diphtheria notwithstanding the solution of sub-sulphate of iron was faithfully applied locally, and to which had been added ten per cent. of pure carbolic acid. I then lost faith in the local application of Monsel's solution as a panacea in the treatment of diphtheria. I found, however, that it had a place, not as a panacea or real curative agent, but it had the effect of lessening the deposits in the throat that were not too much attached, and by its local effect the patient was enabled to swallow immediately

after its use. For this reason I consider it an important remedy in the treatment of diphtheria, as it frequently happens where the tonsils and the arch of the soft palate are involved, as I have often seen, that the patient cannot swallow, but after the use of Monsel's solution this may be accomplished.

So that my experience with Monsel's solution in diphtheria without any other application has not been as favorable as the Bowling Green doctors have suggested. It has a place in the treatment of diphtheria; but I would advise that the fellows act very cautiously in using it, inasmuch as it is a very powerful astringent, and in the cases of young children it is often very exhausting to them, causing difficulty in breathing, and the shock after its use, especially when they have to be held while applying it, is often very injurious to their welfare.

SOME REMARKS CONCERNING THE WORK OF DR. MARTIN.

DR. C. G. LUCAS: I have concluded this evening to occupy your time for a few minutes in speaking of the work I saw abroad, particularly of Dr. Martin, of Berlin, with whom I spent two months some time since, and of all gynæcologists I have ever seen, either in this country or abroad, I regard him as the best. He has a large four-story hospital located on a rather prominent street of Berlin, and has his own clinic. In this hospital he has an outdoor department as well as indoor, and at two periods in the year, May and September, he accepts private pupils. At the close of the year I was with him. His class numbered about thirty, not only Germans, but Americans, Englishmen, Frenchmen, Russians and I think two Italians. He was able to speak all these languages with sufficient fluency to get along very well. He was raised in England and has very good command of the English language. He has a large lecture-room, which is also used as a general examining room and two operating-rooms on the floor above. In one room he does all of his minor work, the other he uses entirely for his abdominal surgery. When he has abdominal sections on hand, all students are required to take off coat, vest, collar and cuffs and pass through a room in which a carbolic acid spray is playing. The patient is brought into the operating-room which is divided by a chain, and placed on the table, naked. For anæsthesia I never saw him use anything but chloroform. He has a chief assistant, Maekenrodt, who sits down on the left side of the table; then an assistant at each end, one who gives the anæsthetic, and another who takes down the history of the case, age of the patient, condition for which operative procedure is resorted to, etc., and the time it takes to do the operation; then he has two nurses. One, Frau Horn, has been with him a great many years and I think is the best nurse I have ever seen.

Dr. Martin in stature is a very large man. In operating he always sits down, his table being divided into four parts, and so arranged that one portion of it can be dropped to allow the bandage to be applied to the patient after the operation is over. He believes in operating rapidly, because he says the longer the patient remains on the table the greater the shock. He makes a very large incision, and just as soon as the incision is made the abdominal cavity is packed with large flat sponges which absorb all fluid and hold the intestines back. He then removes an ovary for instance, and the trained nurse hands him a needle threaded with sterilized cat-gut with which he transfixes the pedicle, ties off the tube and then removes the other ovary if necessary in the same manner. He never uses irrigation of any kind. When he is through with removal of the appendages, the nurse hands him another needle holder complete; he inserts the first suture and it is tied; she then hands him another which is introduced and tied in the same manner. As fast as each suture is introduced it is tied, and in that way he is enabled to operate with great rapidity. I have seen him do an ordinary ovariotomy in four minutes from the time the patient went on the table until she was taken away with the operation complete. I saw him do seven laparotomies in one hour and forty-five minutes altogether. In doing an hysterectomy he removes the uterus entire, that is in a complete abdominal hysterectomy. Vaginal hysterectomies are done by him every day. In abdominal work, which was probably four or five times per week, by the very fine method of postal service in Berlin he was enabled to notify all students to be present at an operation at an early time any day, if they had not been notified the day before. In doing a vaginal hysterectomy he first makes an incision through the *cul-de-sac*, then packs iodoform gauze in the vagina, ligating the broad ligament as he goes along, removes the uterus entire and closes the wound, using cat-gut altogether. He never had any bad results from the use of cat-gut; never uses a clamp. He is a great believer in colporraphy, in fact I have seen him do as many as eight and ten in one morning. In this operation he always makes a diamond-shaped incision, and uses a knife that was invented by his assistant, Frau Horn. It is something the shape of a card-club made of very thin steel, and by using tissue forceps he could pick the mucous membrane up, and rolls the whole thing out. He then sutures through the center of the diamond from above down, takes up about one-third of the tissue; the

next row of sutures from below upward completes the operation, operating under a stream of bichloride of mercury 1 to 10,000. After these cases are operated upon they are taken into another private room where the dressings are applied. I saw him do at least a hundred of these operations, none of which was followed by suppuration. He preserves complete records of all his cases by means of books especially prepared for the purpose. His results are very good comparatively; I think his percentage of deaths are perhaps a little higher than among other German operators, but this I attributed to the crowding of patients in his room and the condition they were in at the time of the operation.

In his touch course I have seen a great many patients examined in one day. A patient would be brought into the room, the students divided into classes of five, each member of the class has a chance to make a diagnosis of every fifth case and an examination of every case. That diagnosis is then either confirmed or disputed by Dr. Martin himself, and if it is an interesting case the condition present is outlined on the board with crayon, then the other class is entitled to examine it. If necessary the patient is anæsthetized in order to allow a more thorough examination.

At the time I was there Dr. Martin was considered to be the best gynæcologist on the Continent. He does not believe in electricity, but uses the knife altogether. He is very courteous to Americans, at least I found him so.

There are a great many other courses in Berlin, one particularly worthy of mention is under the control of Dr. Olshausen. He has a very large out-patient department; with five examining tables and two tables for treatment. While I was there his classes were divided into threes, each man having a chance to diagnose every third case; then Dr. Winters, Prof. Olshausen's assistant, would do exactly like Dr. Martin, either confirm or dispute the diagnosis. In other departments they inserted pessaries, or washed out the uterus as the cases might demand. On Fridays all these chairs would be occupied by cases under anæsthesia, and some very interesting ones are encountered. Cases of abdominal tumors, double pyosalpinx, etc., etc., and every man has a chance to do some gynæcological operation. I saw Prof. Olshausen operate upon one case of double pyosalpinx in the Trendelenberg position, where the adhesions were so great that he tore into the rectum twice. He has a very large operating-room, the floor and walls of which are covered with tiling. He operates as a rule on an ordinary table. He is not a very rapid operator, but usually does his work very nicely. In vaginal hysterectomy as well as minor gynæcological work, his operating-room is so arranged that every man has a chance to see.

I also saw considerable surgical work in England. In one case where an amputation of the cervix was about to be done, the operator had occasion to introduce the sound to steady the uterus, and immediately after withdrawal of the sound a fœtus popped out. They were quite surprised, but went on and finished the operation, then concluded to introduce the sound again, when another fœtus popped out. I saw some very bungling work among the London surgeons, as well as bad diagnosis. One case was operated upon for ovarian cyst; the patient had ceased menstruating some fifteen months before, and had expected to be delivered in January.—About the middle of December she had some little flow and called in a doctor who said nothing was necessary and left her. She had passed the time she expected to be delivered and about the first of April had another flow which continued for three weeks. Nothing was done for her, and she went along until the first of June, when she had a perfectly normal menstrual period. On the Fourth of July when the ovariotomy was done, they found a perfect extra-uterine gestation, the child being very large. The patient recovered and there was no further trouble.

I remember reading several days ago the report of an operation done for cancer of the stomach which brings to mind a case that I saw Mr. Jessop, of the Cancer Hospital, operate on. The patient was a woman thirty-five years of age. Her stomach had been washed out for several days before the operation with a solution of salicylic acid. After the incision was made the cancerous mass was extirpated; the cut surfaces of the stomach and duodenem were inverted and closed with Lembert sutures. A Senn plate was introduced into the stomach and another into the jejunum, sutures tied and abdominal wound closed. In thirty-six hours the patient was taking milk and beef tea and her recovery was entirely uneventful.

I was quite surprised at the manner in which Lister operated; I saw him operate quite a number of times, and he did not even take the trouble to clean his finger nails, but would immerse his hands in a solution of carbolic acid; yet I never saw any bad results following his operations.

So far as my experience leads me to believe, I think the gynæcology at Berlin is superior to that of any other city abroad; for general surgery I think Vienna beats them all.

DISCUSSION.

DR. W. H. WATHEN: Probably I am more interested in the report of Dr. Lucas than some of the other Fellows, because I am personally acquainted with Dr. Martin, having met

him in this country several years ago. While we may not follow Dr. Martin's methods in all particulars I doubt if he has a superior in gynæcological work. Like all of us he has his hobbies, which at times may be carried too far, and he may have bad results or deaths, where perhaps a different method might have been productive of successful results.

I am a little surprised at the remark by one of our Fellows, that pus tubes so often follow his curetting operations, and I feel sure that if such be true, it is because of a lack of antisepsis before or during the operation, for I do not believe there is danger of pus tubes following a thorough curetting of the uterus, if proper precautions are observed. If infection is not by contact there is practically no danger of sepsis being conveyed to the patient from the room or clothing.

During the last two years I have done a great deal curetting for inflammatory and other conditions of the endometrium, and for malignant disease, without the slightest evidence of any immediate or subsequent bad results, but I observe as rigid aseptic and antiseptic precautions as in a laparotomy. The patient is prepared after the same fashion: A hot vaginal douche is followed by a douche of bichloride solution 1 to 2000. After the patient is on the operating table the vulva and vagina are thoroughly washed with a 1 to 1000 bichloride solution. The speculum is then introduced and the vagina wiped dry with gauze or cotton sterilized in and wrung out of a 1 to 1000 bichloride solution. The neck of the womb is cleansed as far as possible with the bichloride solution; all the instruments and gauze used for tamponing are made aseptic in an Arnold's sterilizer. The neck of the uterus is dilated sufficiently to allow the curette to go in easily. I use the sharp curette; the uterus is pulled down by fixation forceps. Beginning at the fundus I curette the body first taking every particle as I proceed and go around the uterus two or three times, until I am satisfied all diseased tissue has been removed. I then curette the neck thoroughly, because I find in many cases the neck is the part containing the most infection. After curetting, the uterus is irrigated with a 1 to 5000 bichloride solution and the cavity tamponed not tightly, but well, with iodoform gauze; the vagina is also tamponed lightly with iodoform gauze. The gauze in uterus and vagina is removed in two days, and a vaginal douche of a 1 to 4000 bichloride solution given. On the third day the patient is allowed to get out of bed and a few days later she is able to go home. I have never used carbolic acid as an antiseptic, and do not think its use is indicated. Demonstrations made by bacteriologists and pathologists have shown that it is of very little use as a germicide. Bichloride of mercury has been proven to be the best antiseptic we have for practical use, and in these cases it is harmless and the results in my experience have been good.

In cancerous disease I curette frequently for the purpose of removing the necrosed tissue and to bring about a more healthy condition by curing the patient of disagreeable symptoms, such as offensive discharges, hemorrhages, etc. When I do a vaginal hysterectomy I always curette thoroughly three or four days before the operation. All the necrosed tissue is gotten away, and the vagina is tamponed; just before the operation I again curette and irrigate with bichloride solution, and I am sure when I open the peritoneal cavity and remove the uterus that I will not convey septic matter from septic tissue. I use no sponges in these operations; I use sterilized cotton that is kept for fifteen to thirty minutes in 1 to 1000 solution of bichloride, is wrung dry and the blood wiped away with it. I use cotton or gauze in all my plastic operations, such as colporraphy, perineorraphy, etc., and have no pus and get primary union.

Dr. S. T. Bullock: In the last few years at the University we have almost daily practiced thorough curettage of the uterus for chronic inflammatory troubles, which operations are done before the class at the clinic. In cases where septic trouble has followed parturition, we do not use the sharp curette, but in all other cases this is the instrument employed. We take every possible aseptic and antiseptic precaution, and after curetting, in addition to irrigation with antiseptic solution, we ordinarily swab the uterus with tinct. iodine, then pack with iodoform gauze of course, first as Dr. Wathen has said, dilating the uterus with Hank's dilator. If the sharp curette has been used the patieut is usually sent home in a carriage, if otherwise they frequently, after remaining for some hours, are allowed to ride home in the street car or other mode of conveyance. I have charge of the records and have followed these cases very closely, and we have never yet had any bad results following these operations.

CASE OF DIPHTHERIA.

Dr. P. F. Barbour: Two months ago I was called to the Children's Hospital to see a child with the history that for three days previously there had been fever and some discharge from the nose. Upon examination I found a small patch, which I diagnosed diphtheritic membrane, in the pharynx posterior to the child's right tonsil. I inferred that the sanious discharge probably came from a diphtheritic membrane in the nose, and my opinion was confirmed by the subsequent progress of the case. I immediately had the

child isolated and for treatment gave tincture of the chlorid of iron 7½ minims every two hours in glycerine. On the fifth day laryngeal symptoms developed and I had Dr. S. G. Dabney intubate. With the intubation I added this treatment: Bichloride of mercury in 1-60 grain doses every two hours, also whiskey, two drams in two ounces of milk. From that time the child received 7½ minims of the tincture of iron, 1-60 grain of bichloride of mercury every two hours, and two drams of whiskey with two ounces of milk. At the same time his nose was syringed out with peroxide of hydrogen solution, 1:4, in which a little bicarbonate of sodium was dissolved. I used the Oakland Co's peroxide of hydrogen, which is supposed to be the least acid of all the preparations, but upon testing it I found it was distinctly acid, therefore dissolved in it a small quantity of bicarbonate of sodium to neutralize the acidity. The seventh day after introducing the tube we attempted to take it out, and did remove it but the child breathed with such difficulty that the tube had to be introduced again. On the tenth day it was coughed out and with it a large piece of membrane, after which the breathing was perfectly free. While the tube was in the throat the child developed purulent otitis media; there was suppuration from both ears. The fever remained high long after the tube was removed.

Of course the case is not especially out of the ordinary, except that there was so much diphtheritic infection, and yet the child recovered. The interesting point to us was that after the removal of the tube the child continued to have fever; it would run up to 103° or 104° F., and once 105° F. was registered. We could find no cause for this because the ears were discharging very freely, and there was evidently no pent-up pus. An examination of the spleen revealed no enlargement; the fever was evidently not malarial, for the child still maintained this high temperature for two or three weeks even under large doses of quinine. The child was only about two and a half years old, and he took from eight to eleven grains of quinine per day, which would have been sufficient to have controlled malarial fever in a very short time. There was no reason to suspect tuberculosis though the child had a scrofulous diathesis. Another interesting point to me was that we gave him rectal feeding. I used for the enema one egg with fifteen grains of salt rubbed up in it; this was given every four hours, and was retained without any trouble. We tried the enema advised by Ringer, port wine with beef, but the child was not able to retain this more than twice. The alcohol seemed to irritate the rectum so it could retain nothing at all.

We did not examine the membrane for the bacillus of diphtheria. Two weeks after the tube was removed, all the membrane so far as we could see had disappeared. We examined the nasal secretions and found no Klebs-Loeffler bacilli at that time; at the end of the third week we again made an examination simply as a precautionary measure before returning the child to the ward; and found no bacilli of diphtheria in either case.

To the conscientious and careful nursing of the two nurses should be given much of the credit of the successful result.

DISCUSSION.

DR. J. W. IRWIN: The case is interesting from two points of view:—first, the age of the patient, and the severity of the disease; second, the extension of the diphtheritic disorder to the nasal passages and middle ear, followed by recovery. I have never seen a case of diphtheritic trouble with anything like the complications reported to get well. The cause of the secondary fever would be a very interesting point to know, for, as a rule, in diphtheria we do not have much fever after the first few days, the tendency is usually more toward depression. The case was certainly carefully managed, and the treatment proved to be effective. I think it is likely that the diagnosis of the case was correct. A case of that magnitude with no sequelæ such as local or general paralysis is also worthy of note, and it may possibly be in that case that the antiseptic treatment prevented it. Another interesting feature in the case is that the deposit had been examined for the bacillus and none found, as it frequently happens that the bacillus can be found for a much longer period than three weeks. The French Academy of Medicine have recently declared that it takes forty days for the contagion of diphtheria to disappear from a patient, and it recommends isolation for that length of time.

HYPERPYREXIA IN A CHILD TWENTY MONTHS OLD.

DR. T. S. BULLOCK: I was called yesterday morning to see a child twenty months old, with the history as given by the father, of the child having had a convulsion shortly before. I found the child having clonic convulsive movements of the right side, and when I touched it was impressed with the extreme heat of the surface, and in taking the axillary temperature was surprised to find that it registered 108°F. I immediately gave the child a cold bath and an enema of bromide and chloral, also gave chloroform to ward off a general convulsive seizure. The convulsions, however, on the right side soon became tonic, the left side soon became involved in a clonic convulsive spasm and the child died last night at eleven o'clock, never regaining consciousness.

The case is interesting to me because of the excessive hyperpyrexia, being the highest I have ever seen.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISTON J. MORRIS, M. D., AND SAMUEL M. WILSON, M. D.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

for May. Dr. George M. Edebohls contributes a paper on

Diagnostic Palpation of the Vermiform Appendix.

The author has been practising palpation of the vermiform appendix for somewhat over a year. Practically all of his experience, he states, has been gained upon women, only three cases of appendicitis in the male having, during that time, come under his observation. Palpation is best performed in the following manner: After completion of the ordinary bimanual examination of the pelvic organs, the woman is drawn upward upon the table to the extent of a foot or two, her feet still remaining where they were placed for the vaginal examination. This is done for the purpose of unfolding the flexures of the thigh, and rendering the right inguinal region more accessible to the palpating hand. One hand only, applied externally, is required for the practice of palpation of the vermiform appendix. No assistance can be rendered by a finger in the vagina, and very little assistance, and that only occasionally, by a finger introduced into the rectum. The examiner stands at the patient's right and begins the search for the appendix by applying two, three, or four fingers of his right hand, palmar surface downward, almost flatly upon the abdomen, at or near the umbilicus. The examining fingers are passed over the abdomen, in a straight line from the umbilicus to the anterior superior spine of the right ilium, and the character of the various structures noticed as they come beneath and escape from the fingers passing over them. In doing this the pressure exerted must be deep enough to recognize distinctly, along the whole road traversed by the examining fingers, the resistant surfaces of the posterior abdominal wall and of the pelvic brim. The author asserts that the whole secret of success in the practice of palpation of the vermiform appendix lies in the fact that pressure must be made deep enough to recognize distinctly the posterior abdominal wall, the pelvic brim, and the structures lying between them and the examing finger.

The author states that the organ is recognized as a more or less flattened, ribbon-shaped structure when quite normal, or as a more or less rounded and firm organ, of varying diameter, when its walls have been thickened by past or present inflammation. When it is the seat of inflammatory changes the appendix is always more or less sensitive on pressure; the normal appendix exhibiting no special tendencies on being squeezed. A good guide, in searching for the appendix, is formed by the right common and external iliac arteries, the pulsation of which can be easily and plainly felt. The appendix is generally found almost immediately outside of these vessels. At its base it is separated from the vessels by a space of one-half to one inch, while lower down in its course it generally crosses very obliquely the line of the arteries.

Theoretically, two conditions mainly militate against the successful palpation of the vermiform appendix after the method above described, namely, the variable situation of the appendix and its frequent location behind the cæcum. Practically, the author has found that these difficulties in the way of diagnostic palpation are not so great as one would suppose.

As the result of these observations the author would lay down a broad rule in regard to operating in appendicitis: Not to operate in chronic cases unless the diseased appendix can be felt, nor in acute cases unless by palpation the diseased appendix or the presence of a tumor can be recognized. Anæsthesia may be necessary, in exceptional instances, to decide the question.

Dr. Reynold W. Wilcox discusses

Uræmic Hemiplegia,

presenting the following conclusions:

1. Uræmic hemiplegia is a distinct form and should be recognized as such.
2. The peculiarities are its mobility, variability, and complete recovery.
3. The diagnosis rests upon antecedent history, condition of the urine, and temperature curves.
4. The dominating factor in the treatment is the uræmia.

Dr. John K. Mitchell contributes a paper on

The Effect of Massage on the Number and Hæmoglobin Value of the Red Blood-Cells.

The author sums up the results thus: In health, massage increases the number of red corpuscles, and to a less degree and not so constantly their hæmoglobin value. In all forms and grades of anæmia there is a very constant large increase in the number of the red corpuscles after massage; this is greatest at an interval of about an hour, after which it slowly decreases. This decrease is postponed more and more if the manipulation be daily repeated. An improvement also takes place in the general tone of the circulatory and muscular systems. There is an occasional but inconstant increase in the hæmaglobin value, and this increase is proportionately less great than that of the cellular elements.

Massage is of great and certain value in high-grade anæmias and is without danger in such cases, no matter how feeble. It is evident that the present definitions of anæmia are insufficient. An essential part of the description in all of them is that there are defects of number, of color, or of both, in the blood. This is not necessarily or always true. The fault may lie in a lack of activity or of availability in the corpuscles. Lastly, neither an anæmic appearance nor a blood count is alone enough for a certain diagnosis. Other

signs must be used as a check on the blood examination for the establishment of the existence of anæmia. The white blood corpuscles have not received sufficient attention in this study, although it seems as if in most cases they were increased as well as the reds.

Even in direct anæmia caused by hemorrhage, massage may be a valuable aid in the treatment both by the impetus it will give to the cells indisposed or disabled for free movement, and by the stimulation of the making of corpuscles. The author has hopes soon to publish some facts as to the application of manipulation to such disorders.

The excess of blood brought into the circulation by massage may be one of the reasons why in occasional sensitive patients we see such discomforts as headache follow its use. Practically we have added a certain number of millions of cells to their tissues, and need not be astonished if some signs of plethora result.

It is evident that massage has complex effects and that the numerical increase of the corpuscles, the added hæmaoglobin value, and the better circulatory and muscular tone, may be due to many causes operating together—a vasomotor nerve stimulation, a direct hastening of the venous currents, an indirect hastening of arterial flow, an improved metabolism, are only some of them.

Dr. George W. Crary presents a paper on

Myxœdema, Acquired and Congenital, and the Use of the Thyroid Extract.

The author states that we must bear in mind that in treating congenital myxœdema we have not a pre-existing condition to which we can bring back our patients; but that in these cases the first step in the treatment is to restore the child's health, and the second step is to maintain the child in a normal condition, so that the development of its mind and body will progress as in any other healthy child of the same apparent age. That such development will take place, he feels sure; but until the cases have been kept under observation and treatment for some years, absolute proof cannot be had. It is his belief that if we break away from the term cretinism, with its vivid picture of the "pariah of Nature," and look more closely for the symptoms of myœdema, we will find that many so-called idiots, imbeciles, cases of arrested development, etc., among children, are in fact cases of functional inactivity of the thyroid gland, and hence susceptible of treatment by thyroid extract, with improvement, and perhaps even cure.

He sums up the effects of thyroid administration as follows:

Increased matabolism; shown by—

1. Elevation of temperature.
2. Increased appetite, with more complete absorption of nitrogenous foods.
3. Loss of weight, with nitrogen excreted in excess of that taken in the food.
4. Growth of skeleton in the very young.
5. Marked improvement in body nutrition generally.
6. Increased activity of mucous membranes, skin and kidneys.

The rheumatic symptoms and the anæmia are not only not relieved, but are most frequently aggravated.

Dr. F. Parkes Weber contributes a paper on

Muscular Cramp, in Relation with the Phenomena of Angina Pectoris and "Intermittent Claudication of the Extremities."

An explanation of ordinary muscular cramps (such as those sometimes affecting the legs of healthy persons after violent exercise and at night time) is that they are due to the irritation caused by the accumulation of waste products in the affected muscles. By the waste products the endings of the centripetal nerves in the muscles are irritated and the cramp or tetanic contraction is a reflex result. The author gives the chief points of his paper as follows:

"True angina pectoris has long been separated from the nervous cases, or 'pseudo-anginas;' it has been regarded as due to stenosis of the coronary arteries and as analogous to certain premonitory signs of dry gangrene, due to stenosis of arteries in the extremities. In the present paper he does not pretend to have discussed these questions in their entirety, but has confined himself to the role played by muscular cramps in relation to the other phenomena. In this paper it is maintained that muscular cramp does not take any necessary part in angina pectoris or in the phenomena preceding senile gangrene in an extremity, but that cramp is likely to occur in any muscle where an accumulation of waste products takes place, whether this accumulation be caused in healthy muscles by rapid catabolism due to excessive exercise, or by insufficient removal of the waste products in the cases of disease due to stenosis of the main arteries and consequent diminution of the blood stream through the affected part. It is further held that these cramps, when they do occur in angina pectoris, are expressed by the syncope, which may accompany the attack and lead to a fatal termination."

Compound Tincture of Coal Tar

is described by Dr. Louis A. Duhring. Summing up the result of his investigations, the author concludes:

1. That the best tincture of coal tar is made with the aid of tincture of quillaia.
2. That the strength of the tincture of quillaia should be 1:4, with 95 per cent. alcohol.
3. That the coal tar (1 part) should be digested with the tincture of quillaia (6 parts) with frequent agitation, for not less than eight days, and preferably for a longer period, and finally filtered.
4. The resultant product is a brown-black, clear tincture, which upon the addition of water forms a cleanly yellowish emulsion, the color and certain other characters varying with the kind of coal tar employed.
5. The tincture is stimulating, and is prescribed usually largely diluted, with from 10 to 60 parts of water, as a wash, and is useful where tar is indicated, as in certain forms of eczema, psoriasis, pruritus, and in other inflammatory diseases of the skin. It is often more useful when employed weak than strong.

This preparation, which may be designated as "compound tincture of coal tar," takes the place of several similarly composed proprietary preparations, known as "liquor carbonis detergens," and "coal-tar saponine."

The Cultivation of the Tetanus Bacillus

is described by Langdon Frothingham, M. D. V. To obtain pure cultures of the tetanus bacillus from cases of traumatic tetanus, or experiment animals, the following method is recommended:

1. Inoculate alkaline bouillon with the pus from the wound, or pus being absent, small bits of tissue from the inside of the wound; or in experiment animals inoculated with pure cultures, bits of tissue from the region of the point of inoculation are used.
2. Place tubes in an atmosphere of hydrogen and in the breeding oven for forty-eight hours.
3. Examine microscopically, and if tetanus bacilli are present—
4. Heat from three-quarters of an hour to an hour in water-bath previously heated to 80°C.
6. From heated tubes inoculate fresh bouillon, and place in thermostat under hydrogen for forty-eight hours.
6. Test purity by microscopic examination and cultures in gelatin, agar, etc.
7. Test virulence on mice, white or gray.

The remaining paper in this issue is the report of "Eight Cases of Beri-beri," by Henry C. Boenning, M. D.

THE NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

for April. Dr. Adrian Hava writes of

Spontaneous Combustion of the Human Body.

His subject refers to instances where persons, usually old, fat, and addicted to alcohol, and always complaining of cold, have been found dead or dying, and partly burned up, usually burning when found. In some cases this has led to trial of others for murder, and such a case is mentioned.

In common with most of those writing about this subject, the author originally believed that the fire was due in some way to the alcohol consumed; but in trying to prove that this might be so, he found that a body soaked for some time in alcohol, and with the veins then injected with alcohol, would not burn. The alcohol, of course, could be set on fire and would burn for some time, but would leave the body intact. Also, animals, poultry, etc., to which a quantity of liquor was given daily for some time would yield alcohol after death only if it had been given for the last time very shortly before death. The reason for this is that the alcohol is absorbed by the tissues only as carbonic acid and water.

The other prominent peculiarity of the victims of this strange accident was complaint of chilly sensation and drowsiness resembling alcoholism: all of them used to sit near a furnace or charcoal brazier, and the author found that the symptoms of poisoning by carbon monoxide, the fumes given off from charcoal, were (in a person habituated to it) prostration, chilly sensations, bronchial irritation, redness of face and skin, irresistible desire to sleep; finally insensibility and death.

Experiments were now made on rabbits and poultry, to prove that they might absorb this gas for some time, and yet live and grow fat. These experiments were satisfactory, and after death it was quite possible to ignite the bodies, and this once done, the charred surface acted as a wick, the fat melted and burned, and the heat became intense. Water sprinkled on the body in this state caused an apparent increase in the combustion, a phenomenon noted in the case of human bodies.

Dr. Allen T. Reed describes a case of

Abscess of the Spleen.

The literature on this subject is, the author says, scanty, and the number of reported cases small. Pyæmia, malaria, and traumatism are possible causes.

A married man, thirty years old, had been treated for at least two months for pneumonia, and when seen by the author had a pulse of 120, temperature 103°, accelerated respiration, and clammy skin.

"He had had cold, and sweating spells, loss of appetite, occasional attacks of diarrhœa, dry hacking cough and enlargement in the left hypochondrium."

Previous to being taken sick he had been chopping with an axe for two or three weeks in such a way that the axe handle occasionally struck him in the side.

One evening he was suddenly seized by chill, high fever, cough, hectic flush, and had for several nights before this had pain in the left side. The case was then diagnosed as pneumonia, and after being treated for some weeks for this, was seen by the author who diagnosed splenic abscess, put him on general supporting treatment, to prepare him for an operation which the family postponed on seeing the good effect of systemic treatment. The abscess ruptured and a post mortem confirmed the diagnosis. The author includes in his paper a plea for greater attention being paid to physical diagnosis in medical colleges, and a hope that the laity may become educated to allow post mortems more frequently when they are desired.

Dr. Randolph Winslow read before the Clinical Society of Maryland a

Report of Two Surgical Cases.

The first was a successful gastrostomy and was interesting from the fact that the patient was a child three years of age, and that at one time the temperature before operation is reported as low as 90°, and 93° for a longer time.

The other case was a suturing of the intestines for perforation by a gunshot. It was followed by secondary ligation (for aneurism?) of the deep circumflex iliac, and by incision to empty an abscess in the iliac fossa.

In the subsequent discussion one or two members thought that in cases of gunshot of small calibre they would rather wait until the effects of perforation became manifest before doing a laparotomy, hoping that a small perforation, if it occurred, would close spontaneously. Other members thought it much

safer to open at once, and leave nothing to chance.

This number also contains a paper by Drs. Roland G. Curtin and Edward W. Watson on Influenza, which appeared in THE MEDICAL AND SURGICAL REPORTER of April 7th, also a paper from the *St. Louis Medical and Surgical Journal*, in which Dr. Homer M. Thomas advocates galvano-cautery as the most satisfactory treatment for pharyngomycosis, and from the *Pacific Medical Journal* an article by Dr. P. M. White on

Sponge Grafting.

In treating chronic ulcers, particularly varicose, and syphilitic ones the author is in the habit of making small incisions in the edges, provided these are indurated, then cutting a thin, accurately-fitting piece from a fine silk sponge, saturating it with any antiseptic solution, and pressing it neatly into the ulcer. This is now kept in place by small adhesive strips, then covered by one layer of cheese-cloth, and over this the usual cotton and roller. The adhesive strips and sponge are left in place; the sponge is moistened daily with any antiseptic except bi-chloride; the superficial dressings are changed daily.

It is only necessary to renew the sponge graft in cases of persistent indolence, and sanious pus. The final result is usually free granulations which adhere to the sponge, cause its absorption, and finally healing—*the author claims without a cicatrix.*

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M. D.

MEDICINE.

Essential Paroxysmal Tachycardia.

Joseph Eichberg (*Cincinnati Lancet-Clinic*), in speaking of this affection, calls attention to the following points:

1. The affection is paroxysmal. The most careful examination fails to discover any cardiac derangement in these cases. Exertion does not cause an attack.
2. The earliest age at which a case has occurred was the ninth year.
3. Sex does not influence the disease in any way.
4. There may be slight rise in temperature during an attack, though it is unusual.
5. Auscultation, during an attack, shows that the heart is regular, though very frequent.
6. The main feature of the heart sounds is the resumption of the fœtal character.
7. The pupils are perfectly normal and active during an attack, showing absence of irritation of the cervical sympathetic.
8. The attacks occur without premonition or exciting cause, often during sleep.
9. The attack reaches it maximum immediately The cessation is equally sudden.
10. The disease is a serious one, though seldom fatal. It is impossible to foresee a fatal termination in any case.
11. Some persons suffer for many years from these attacks. In severe cases it certainly tends to shorten life.
12. The secondary results of these attacks are very important. There is disturbance of the respiration; and acute dilatation of the heart. This latter disappears with the cessation of the attack.

The most frequent cause is mental and physical overwork. In pathology, is primarily a neurosis. Of medicinal agents, bromides and morphia in small doses, with proper rest, do most good. Digitalis is useless. No time should be wasted in trying the cardiac tonics. A rigid regulation of the mode of life is imperative. Tobacco must be abandoned.

Convulsions in Young Children.

M. Simon (*Gazette des Hopitaux*), in a clinical lecture on this subject, remarks that the following indications should be followed:

1. Empty the digestive canal. Very many cases of convulsions are due to some condition of indigestion. For this purpose give a large enema and dose of some laxative, as castor oil, epsom salts, etc.
2. Calm the nervous system. For this he recommends a mixture of chloral, musk and water.
3. Active treatment of the skin, as by hot baths, mustard baths, or sinapisms.
4. The treatment of the case after the attack, so as to regulate the health and prevent a recurrence. This is mainly a question of the treatment of the digestive organs. Sometimes the convulsions are due to derangements of the kidneys. This requires treatment directed to these organs, such as hot air baths, proper diet, diuretics, and warm water baths.

Essentials in a Healthful Home.

The site for a house should receive careful attention of the tenant, purchaser, or of one proposing to build. A good site may mean life and happiness, and a bad one disease, suffering and death.

1. It should be dry. Avoid, as you would death, a damp location. In a town or city carefully ascertain whether or not it is on "made ground." Avoid it. Avoid ground underlaid with clay, for it will always be damp.
2. Elevated on a hillside or gentle knoll, never in a hollow. The hillside is warmer and dryer than the hollow.
3. Not close to a swamp, slow river, milldam or land which is overflowed a portion of the year, nor in such a place that the prevailing winds will bring to the house pestilence from a milldam, etc.
4. In as good a neighborhood as possible, away from factories, saloons, etc., and near schools and churches.

5. In a village or town build on as large a lot as possible, thus securing air and sunlight. Build back from the street, thus avoiding the dust of the dry season and the curious gaze of every passer. Secure a yard in which trees and plants will furnish both exercise and health.

6. In the country build back from the highway, giving an abundance of room for trees and shrubbery about the house. Do not select a place where your family will be isolated from all social intercourse, so necessary to the health of mind and body.

For the aspect, let the house be so placed that it will receive the most sunlight and fresh air, especially from the summer winds. Avoid, even if offered rent free, a damp, dark house, with no chance of the free air of heaven to sweep through it. If the house is only one room deep, it does well to face it to the south or southwest; but if it is two rooms deep, those on the north side never receive any sunlight, and are apt to be damp. For a double house it is the best to face to the east. Then the morning sun will warm up the front and the afternoon sun the rear of the house, and thus all the rooms will be bathed in light and warmth. The living-rooms should always be warmed by the morning sun. This hint is worth a great deal as a health matter. For when the sun cannot enter, the doctor must enter. If the cold winds from the north and west are severe in the winter, they may be broken by a cluster of evergreen trees planted on those sides. In country places a good aspect should be secured without reference to facing the house square with the street.—*Pacific Health Journal.*

Habitual Nose-Bleed.

Dr. Wm. Rath (*Wien. Med. Presse*) says: To the general causes of nose-bleed belong:

1. Disease of the vascular system and a change in the composition of the blood itself, such as is found in scurvy, purpura, hemorrhage, hemophilia, etc.

2. The fragility of the blood vessels following acute infectious diseases (acute exanthemata, typhoid, diphtheria), also subacute and chronic infectious diseases (malaria, pyemia, septicemia).

3. All those diseases which lead to obstruction of the circulation (valvular disease of the heart, diseases of the lungs, tumors of the mediastinum, cirrhosis of the liver, Bright's disease, amyloid degeneration of the kidneys and liver, and lastly, also the physiological process of pregnancy).

4. Vicarious menstruation, a cause now and then observed.

To the local changes in the nose causing nose-bleed belong:

1. Erosions and superficial ulcerations of the mucous membrane.

2. Varicose dilatation of the veins on the anterior portion of the nasal septum.

3. Perforating nasal ulcer.

4. Ulceration of the mucous membrane and of the bones in the course of syphilis, tuberculosis, lupus, and other destructive processes.

5. New growths—especially sarcoma and soft carcinoma.

6. A certain fragility of the mucous membrane, for which, microscopically, no cause can be assigned.

7. Trauma.—*Medical Brief.*

The Causes and Treatment of Migraine.

Dr. H. Gradle (*Chicago Medical Recorder*) disputes the gouty and neurotic origin of nervous sick headaches. He contends that the most frequent etiological factor in migraine is astigmatism. The degree met with in most cases that are well marked is three dioptrics. High degrees of astigmatism often cause only poor sight. Hypermetropia sometimes gives rise to it. Nasal diseases may also cause migraine. Intestinal catarrh also may be a cause.

The treatment consists in a the correction of these conditions. When properly carried out, the results are usually very good. The only drug that seems to have any permanent influence on this disorder is cannabis indica. This cures about one-third of all the cases. It must be continued for a long time, however. This drug often aborts an attack. When it does not, antipyrine usually does.

A Plea for Chloroform in Labor.

(W. B. Sprague, M. D., of Detroit, in *Amer. Lancet.*) The advantages of chloroform anæsthesia may be enumerated thus:

1. More rapid dilation of the cervix. The cervix and os are supplied with nerves from the cerebro spinal system, and pass readily under the influence of an anæsthetic. Even Barnes says: "Here it is often of signal service." It is especially useful from this standpoint, in cases of rigidity or spasmodic action by which the os gives unusual resistance and the result is lack of harmony of action in the different parts of the uterus.

2. It preserves the perineum by relaxing the muscles, allowing for manipulation, making it possible to deliver the head in the intervals of the pains rather than with an expulsive effort.

3. The mother often restrains the contractions to the uttermost until she is anæsthetized. The abdominal muscles are both voluntary and reflex. Labor can be greatly delayed by this restraint, and it is in these cases that labor proceeds more rapidly with than without the anæsthetic.

4. In cases of heart disease, when palpitation and dyspnea are induced, the chloroform quiets the heart and removes an element of considerable danger.

5. The exhaustion and shock of severe labor are averted, and the contractile energy of the womb is conserved, thus protecting against post-partum hemorrhage.

6. Reflex contractions of the abdominal muscles seem to be more easily induced by artificial stimulation—pressure on the perineum, etc., in the anæsthetic than in the non-anæsthetic state.

7. Most important of all, in my estimation, is the amelioration of suffering to the parturient woman. In my experience it has been rare to find a mother give birth to her child without calling upon her doctor for help and relief. These cries were often agonizing, and the lying-in chamber was to me frequently a chamber of torture before I learned that I could so easily and safely respond to them. I cannot believe that any physician can have the heart to refuse this help after giving the subject careful consideration. Lusk says: "Few practitioners give themselves the trouble to master the necessary *modus operandi* of the use of anæsthetics, to study the limitations of their usefulness, or to learn the conditions of their safe administration. It is to such that I appeal.

The Punishment for the Crime of Producing Abortion.

In England and Ireland the punishment is penal servitude for life, or a less term. Should the mother die, the crime becomes murder, which may be punished by death. In Scotland (says *The Lancet*), the punishment is arbitrary; in France, Spain, the German Empire, Austria, Hungary, Italy, Russia, Norway, Sweden and Denmark — in short, throughout the whole of Europe—the crime is punished by imprisonment for from six months to twenty years, or for life. In Sweden the penalty is death if the mother dies; and in Russia the mother, if a consenting party, may be exiled to Siberia; in the Dominion of Canada the penalty is imprisonment for life; in Nova Scotia, Quebec, Ontario, British Columbia, and in Prince Edward Island it varies from imprisonment for two years to for life; in New Brunswick the penalty is death; in Australia and New Zealand the punishment is very severe, ranging from two years' imprisonment to penal servitude for life; in the United States it is punished with fines ranging from $100 to $5,000, with imprisonment for long periods, and with death.—*Med. Record.*

A New Method of Artificial Respiration in Asphyxia Neonatorum.

Dr. J. Harvie Dew, of New York, has described a new method of artificial respiration in newborn babes, which may be summarized as follows:

Grasp the infant with the left hand, allowing the neck to rest between the thumb and forefinger, the head falling over backwards; the upper portion of the back and scapula resting in the palm of the hand, the other three fingers to be inserted in the left axilla, raising the arm upwards and outwards. Then grasp the knees (or ankles, if baby is small) with the right hand in such a way as to hold them with the right knee resting between the thumb and forefinger, the left between the fore and middle fingers. Next, depress the pelvis and lower extremities so as to allow the abdominal organs to drag the diaphragm downwards, and with the left hand gently bend the dorsal region of the spine backwards. Retain for two or three seconds, then reverse the movement, bring the head, shoulders and chest forward, closing the ribs upon each other, and at the same time bring forward the thighs, pressing them on the abdomen. Retain two or three seconds. Repeat movements.—*Canadian Practitioner.*

Chapped Hands and Face.

Dr. W. P. Spratling says (*Med. Rec.*) a most excellent remedy for chapped hands and face, and one that, if properly used, will cure the most painful cases in from twelve to twenty-four hours, is compounded as follows:

℞

Tr. benzoin co.	min. x
Alcohol	ʒ ij
Aquæ rosæ	min. xxx
Glycerini	q. s. ad ʒ j.

M. Sig.—Apply to chapped surfaces at night, after they have been washed with soap and warm water, and thoroughly dried.

A second application is rarely required. This remedy is equally efficacious in the treatment of fissured, bleeding and sore lips.

Pruritus Vulvæ.

Dr. Ohmann Dumesnil recommends the following:

℞

Hydrarg. bicholor.	gr. iss
Ammon chlor.	gr. ii
Ac. carbolici	ʒ j (more or less)
Glycerini	ʒ ii
Aq. rosæ ad	ʒ viii

M. Ft. lot. Apply frequently.

—*Canadian Practitioner.*

Treatment of Anthrax in Man.

Sestina (*Lo Sperimentale*) reports a case of anthrax infection which was successfully treated by a method first adopted by Mafucci, namely, by the injection into the affected parts of rather large quantities of phenol solution. On the first day eight injections of 1 g. of a 3 per cent. solution of carbolic acid were made into the parts attacked. On the second day three injections of a 2 per cent. solution, and on the third day two more injections of 3 per cent. solution were made into the freshly œdematous parts. The lesions were covered with sublimate dressings, and phenate of quinine was given internally. Notwithstanding the large amount of quinine taken, there was at no time any sign of carbolic acid poisoning. One more interesting point about the case is the bacteriological investigations which showed that the anthrax bacilli did not get into the general circulation, but remained confined to the parts immediately surrounding the original point of infection.—*British Medical Journal.*

SURGERY.

Treatment of Puerperal Mastitis.

Dr. J. W. Russey, of Chattanooga, believes compression of more general utility than any simple measure, both prophylactic and curative. To be efficient for the former purpose, it must be used early after labor. The chest binder of Dr. Guiterras, is a most satisfactory means of applying pressure. If abscess forms, pus should be evacuated early and perfectly. Washing the abscess cavity is preferable to drainage tubes. If drainage is necessary, horse hair is to be preferred to rubber tubing. Great care should be taken in selecting point for incision, if circumstances admit, on account of scar in cosmetic point of view.—*Tri-State Medic. Soc. Trans.*

The Parasite of Cancer.

On several occasions we have called attention to the investigations of Professor Adamkiewicz, of Vienna, since they promised to throw more light on the obscure etiology of carcinoma. In his latest article, which is published in the *Wiener Mediziniche Presse*, the author formulates the results of these investigations as follows: "The true and characteristic element of cancer is a coccidium. From it originate spores (larvæ), which in turn develop into coccidia and amœbæ. Metastases are produced by migration of the larvæ, coccidia and amœbæ to different parts of the body. The development of larvæ takes place within the epithelial and endothelial cells of the diseased area. The parasite, when developed, lives outside the cell and forms an integral portion of the cancerous tumor. It destroys the epithelia, but never causes them to proliferate, and it seems probable, therefore, that what appear to be epithelial proliferations are frequently colonies of coccidia and amœbæ." Adamkiewicz calls this parasite the coccidium sarcolytus, and considers it identical with the epithelial cell of cancer. Korotneff, who has followed a similar line of investigation, reaches essentially the same results. He goes even further and gives a minute description of the cancer parasite and its mode of development. Viewed with his eyes this formidable animal, when fully formed, is a gregarine, having a bulbous anterior end and terminating posteriorly in a sort of tail. It is rarely, however, that the larvæ develop into gregarines; usually they grow into a coccidium or amœba.

Whatever practical value be attached to these observations they are, at any rate, strikingly original and deserving of careful consideration. Looked at from another point of view, they illustrate exceedingly well the contradictory character of the evidence afforded by microscopical research in some diseases. As seen by one observer, the tissues of a cancerous neoplasm consist of proliferating epithelial cells, while to another, equally careful, these same cells assume the appearance of a destructive parasite. The nuclei of the cell in the one case become the larvæ of the coccidium in the other. How can these differences be explained? There certainly seems an element of optical delusion involved in the question.—*Internat. Jour. of Surgery.*

Mode of Controlling the Circulation through the Abdominal Aorta.

As patient lies on his back, the assistant, facing patient's feet, stands on the left side of the table, in a line with patient's umbilicus. He then places his closed right hand upon the patient's abdomen a little to the left of the middle line, the knuckles of index finger just touching upper border of the umbilicus, so that the whole shut hand will embrace about three inches of the distal extremity of the aorta above its bifurcation. Then, standing upon his left foot, his right foot crossing his left and resting upon the toes of the right, —an attitude commonly assumed by public speakers,—he leans upon his right hand, and thereby exercises the necessary amount of pressure. With the index finger of the assistant's left hand the weight necessary for the purpose can easily be estimated by the effect produced upon the flow of blood through the common femoral at the brim of the pelvis. Whenever the flow of blood through the femorals is absolutely arrested the abdominal aorta is sufficiently controlled, and no further weight should be applied.—*Annals of Surgery.*

Thyroid Extract in Myxœdema.

Dr. F. C. Shattuck, of Boston, has treated four cases by thyroid extract, three of these being undoubtedly cases of true myxœdema, which the author believes can be added to the rapidly-lengthening list of cures by this treatment. The other case did not improve, the diagnosis, however, not being certain. Dr. Shattuck calls attention to the fact that in this, as in other diseases, there are differences of degree, total inactivity or loss of the gland being one thing, partial inactivity or loss another. Anginoid attacks are the most important untoward symptom likely to be encountered. It seems probable that the use of the remedy must be persisted in through life, and that larger doses will be required during the cold than during the hot weather. The initial dose, 1 grain (0.065 gramme), was cautiously increased according to the case.—*Boston Med. and Surg. Jour.*

PATHOLOGY.

The Form of Peritonitis.

Dr. Roswell Park, of Buffalo (*Medical Age*), goes very fully into the classification of peritonitis. The first method of classification he discusses is the clinical, and divides the disease as follows:

1. The Idiopathic. This form of peritonitis has been long accepted by standard authors; but the writer does not think that any such form exists. In his opinion there is no such a condition as idiopathic peritonitis. There is some disturbing condition, such as rheumatism, malaria, etc.

2. The Consecutive Form. This is the form where inflammation extends to the peritoneum from some other organ or tissue. This happens more frequently from the hollow than the solid viscera.

3 The Perforative Form. Peritonitis frequently follows the escape of the excretory or secretory material of some of the abdominal organs into the peritoneal cavity. This is usually a very fatal form of peritonitis.

4. The Traumatic Form. This includes all forms due to injury, whether the peritoneum be perforated or not. This form may be due to contusions or penetrating wounds.

5. The Chronic Peritonitis. This form is often due to Bright's disease. It has nothing in common with the acute form. It is most likely due to the constant irritation of some toxic irritant. The peritoneum is usually much thickened and opaque.

6. Tubercular Peritonitis. This form may be primary or secondary. Slow forms are not unlike that just mentioned above, with the addition of the nodular appearance of tubercle.

7. Malignant Peritonitis. Less than one-half are primary, the majority are secondary. Miliary carcinoma may be primary or secondary. Generally the symptoms are mild.

8. So-called Latent Form of Peritonitis. There are fatal cases in which pus or other evidences of diffuse or local peritonitis are found, but in which during life such was not suspected. This form is nearly always characterized by the presence of pus.

9. The So-called Fœtal and Uterine Forms. This form may arise from stenosis of the fœtal intestines, as shown by Virchow. An inflammatory form has also been noticed to occur shortly after birth. This is often consecutive to disease of the umbilicus.

The second method of classifying peritonitis is known as the anatomical. This is very simple:

1. There is the general or diffuse form.

2. The circumscribed form may result from injuries. It generally occurs about the cæcum. A rare form is found in the cavity of the lesser omentum, and is usually due to disease of the pancreas.

The third method of classification is the pathological:

1. The aseptic form, usually local, and characterized by hemorrhages or fibrinous effusions, with adhesive tendency.

2. The infectious forms, as staphylococcus, streptococcus, colon infection, septic purulency, putrid from perforation.

3. Specific forms, such as tubercular, gonorrhœal, actinomycotic. Opinions are yet divided regarding a gonorrhœal infection, though held by some good writers to be the case. The colon bacillus is now known to be the cause of peritonitis. It has been shown that the colon bacillus may escape from its usual habitat, and give rise to intense inflammation and very fatal results. The putrid form occurs most frequently after operation for perforation. The exudation is very infectious and foul smelling.—*Dominion Medical Monthly.*

Parasitic Theories of the Origin of Carcinoma.

Dr. James P. Warbasse, of Brooklyn (in *Brooklyn Med. Journal*), discusses the parasitic origin of carcinoma. He reviews the works of pathologists who have studied this question. He calls attention to the fact, that observers of high repute, by the same methods of study, have reached contrary conclusions. Many good observers regard the so-called parasites as modified cells. The author, however, has found bacteria in carcinoma. While this is true, he holds that there is no foundation for the opinion that parasites are the cause of carcinoma. No bacterium of constant characters is always found in carcinoma. Thus the first condition of a bacterial theory is wanting. No proof has yet been advanced to show that any germs found in a carcinoma can be isolated and then reproduce the growth in another and suitable soil. There are other reasons against the parasitic theory. Carcinomata are related through the endotheliomata and peritheliomata to sarcomata; and through the adeno-carcinomata, to benign adenomata.

Then again, on etiological grounds, we have chemical and mechanical irritants as evident causes of all tumors. So, too, sarcoma or carcinoma may develop in scar tissue. From chronic inflammation of mucous membrane may come polypi, ademonata, or carcinomata. If we contend for a parasitic origin for carcinoma, we must seek for a similar origin to other malignant and benign growths.

The most plausible parasitic theory is that of the sporozoa. But this does not meet the case. The advocates of this theory are met by equally capable observers who contend that what has been called sporozoa are only endogenous cell constituents. Thus the theory of Adamkiewicz is unnatural and illogical, while the theories of Cohnheim, Virchow, Thiersch and Klebs, based on a cellular theory, meet the phenomena best.

On Meat Diet for Gout.

From time immemorial excessive meat eating has been considered the chief cause of gout. As medical experience corroborates this view, until quite recently gouty subjects were advised to reduce their consumption of meat to the smallest possible quantity; but a few years ago Dr. Emil Pfeiffer advocated the contrary system, and based his conclusions on the quantity of uric acid observed in the case of five healthy and six gouty persons subjected to the particular diet prescribed by him. According to Pfeiffer, this diet consisted chiefly of albuminous substances, such as meat and eggs, and also of fat and green vegetables, while carbohydrates, more especially starch and sugar, were scrupulously avoided; and analysis proved that the secretion of urea and uric acid was increased and the fluids of the body rendered as alkaline as possible. Pfeiffer concluded from the results of the analyses in these eleven cases that healthy individuals excrete more uric acid than gouty patients; but all his subsequent investigations, as well as about two hundred

determinations of the uric acid excreted by one of Mordhorst's patients, gave a contrary result. (The uric acid was determined according to Heintz's method.) As a matter of fact, sufferers from gout extrete, on an average, more uric acid than healthy persons, and a strictly meat diet, so far from rendering the fluids circulating in the body more alkaline, has the opposite effect. It is a well-known fact that the power possessed by a fluid for dissolving uric acid depends upon its alkalinity. Unfortunately, although we can readily render the urine alkaline, it is extremely difficult to render those tissues which are predisposed to the deposition of uric acid deposits neutral, much less alkaline. The urine of a puppy receiving a daily ration of a couple of rolls and about eight ounces of milk is invariably slightly alkaline, whereas that of a similar puppy, only receiving meat as well as milk, never gives anything but a strong acid reaction.—*Provincial Med Jour.*

The Relation of Syphilis to General Paresis.

Dr. Frederick Peterson states that his study of this subject leads him to submit the following brief conclusions:

1. A history of syphilis is found in sixty or seventy per cent. of cases of general paralysis of the insane.

2. The fact must not be lost sight of that in thirty to forty per cent. of these cases no history of syphilis, congenital or acquired, is to be found.

3. Antecedent syphilis is seven to ten times more frequent in general paralysis than in other forms of insanity.

4. Syphilis is therefore to be looked upon as a frequent but not a constant factor in its production.

5. But paralytic dementia is not a form of specific disease, not a late syphilitic manifestation, nor is it a form of degeneration dependent upon syphilitic poison for its origin.

6. The relation of syphilis to general paresis lies in the facts that it is a widespread disorder in all communities; that it weakens the constitution and vitiates the blood in many whom it infects, and that the system is thus prepared in many cases for the direct operation of the final etiological factors of general paresis, viz.: alcoholism, excessive venery, heredity, and mental overstrain and excitement.—*Toledo Med. Compend.*

The Local Lesion of Scarlet Fever.

Dr. W. Dowson, in a paper on this subject, submits the following propositions, viz.: That (1) tonsillitis is invariably present from the very first in scarlet fever; (2) it is the first sign apparent, both to the patient and the observer; (3) it recurs in relapses; (4) its severity is directly proportional to the severity of the other associated features of the disease; (5) this difference in severity of the throat affection and its relation to the other marks of the disease are recognized as affording a basis, to a great extent, for the clinical classification of the cases of this disease; (6) it is absent just in those cases where there is probability that the local infection takes place at an unusual situation, as in surgical and puerperal scarlet fever; (7) it leaves in the tonsil a permanent lesion, which can be observed long afterward; (8) people who have normal tonsils have not suffered from scarlet fever; (9) people who have gone through an attack of scarlet fever have not normal tonsils; (10) the immaturity of the tonsils at birth, their development in early childhood, the onset and establishment of puberty acting by way of the tonsils, and the atrophied condition of these organs after the age of 30, control, to an important extent, the incidence of this disease. He claims, in fine, that, as in diphtheria, the throat condition and cervical bubo of scarlet fever are the analogues of the chancre and inguinal bubo of syphilis, or of the intestinal ulcers and enlarged mesenteric glands of enteric fever.—*Medical Chronicle.*

Congenital Absence of Lung.

Professor Tikhomiroff, of Kiev, exhibited a preparation of the right lung and the heart of a woman 24 years of age. There was a congenital absence of the left lung. The case was of interest from the practical as well as theoretical point of view. (*a*) The normal nutrition and development of the body had not been impaired. (*b*) The pulmonary apparatus is, in the first periods of embryonic life, single; for in the case described there was no indication of the left bronchus, and the pulmonary artery had but a single trunk.—Russian correspondence of *La Medecine Moderne.*

ARMY AND NAVY.

CHANGES IN THE U. S. ARMY FROM APRIL 21, 1894, to APRIL 28, 1894.

Major Charles K. Winne, on being relieved by Major Gibson, is ordered to duty at Fort McHenry, Maryland, relieving Captain Charles B. Ewing, Assistant Surgeon.

Captain Ewing, on being relieved by Major Winne, will report for duty at Jefferson Barracks, Missouri.

Major Valery Havard, Surgeon, is relieved from duty at Fort D. A. Russell, Wyoming, and ordered to David's Island, N. Y., for duty at that depot; relieving Major Joseph R. Gibson, Surgeon.

Major Gibson, on being relieved by Major Havard, is ordered to Fort Snelling, Minn., for duty at that station, relieving Major Chas. K. Winne, Surgeon.

Captain William L. Kneedler, Assistant Surgeon, will, in addition to his present duties as Post Surgeon, Fort Mason, Cal., perform that of Attending Surgeon, San Francisco, California, until further orders.

Leave of absence for one month, to take effect on or about April 24, 1894, is granted Captain James D. Glennan, Assistant Surgeon.